AEROS 9040

USER MANUAL

Software version 4.11

TeeJet® TECHNOLOGIES

A Subsidiary of Spraying Systems Co.®

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Safety Information

TeeJet Technologies is not responsible for damage or physical harm caused by failure to adhere to the following safety requirements.

As the operator of the vehicle, you are responsible for its safe operation.

The Aeros 9040 in combination with any assisted/auto steering device is not designed to replace the vehicle’s operator.

Do not leave a vehicle while the Aeros 9040 is engaged.

Be sure that the area around the vehicle is clear of people and obstacles before and during engagement.

The Aeros 9040 is designed to support and improve efficiency while working in the field. The driver has full responsibility for the quality and work related results.

Disengage or remove any assisted/auto steering device before operating on public roads.

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CHAPTER 1 – INTRODUCTION

The Aeros 9040 Field Computer allows the management of multiple connected modules plus GPS mapping, Guidance, FieldPilot®, BoomPilot®, Rate Control, Tip Flow Monitor, and data collection in a single console using CAN bus technology. This replaces multiple consoles in the cab with one robust system.

Product Upgrades Available

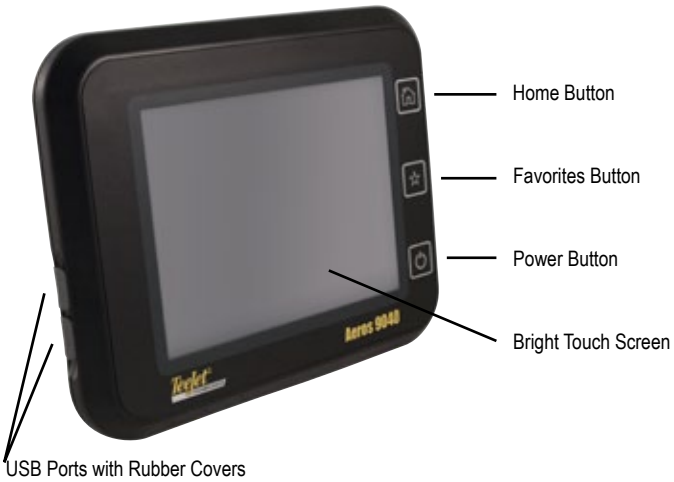
- FieldPilot® auto steering
- UniPilot® assisted steering
- BoomPilot® automated boom section control
- Tilt Gyro Module
- Video Selection Modules for up to 8 cameras
- External GNSS receiver or antenna upgrades
- Fieldware® Link enhanced data organization application
- Pressure Sensor Interface Kit for Droplet Size Monitor
- TeeJet Rate Control
- ISOBUS Rate Control
- Reverse Sense Module
- Tip Flow Monitoring

SYSTEM COMPONENTS

Aeros 9040 Console

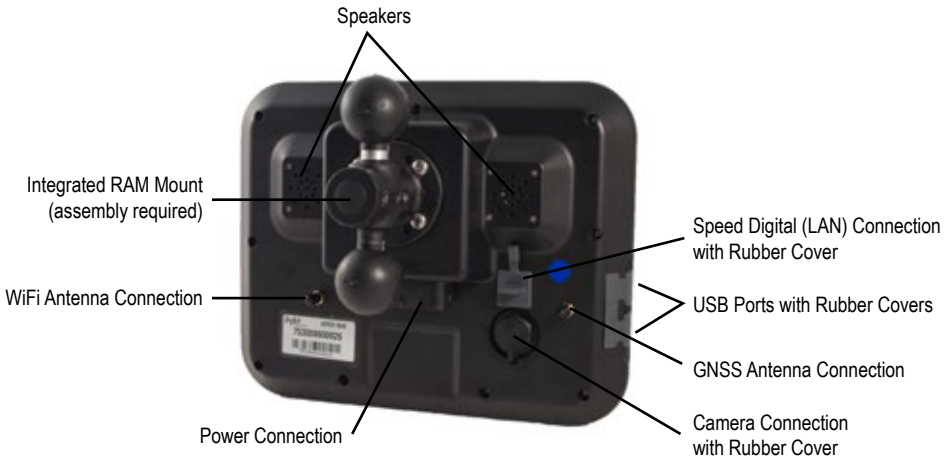
The Aeros 9040 is designed to provide years of service under typical agricultural operating conditions. A tight fitting enclosure, combined with rubber covers for all connectors mean that typical dusty environments will not cause operational problems. While occasional splashing of water will not damage the unit, the Aeros 9040 is not designed for direct exposure to rain. Take care not to operate the Aeros 9040 in wet conditions.

Figure 1-1: Aeros 9040 Console Front



Aeros 9040 Field Computer

Figure 1-2: Aeros 9040 Console Back



Buttons

Home

The Home button provides a shortcut to the Home screen.

Favorites

The Favorites button provides a shortcut to a frequently used console bottom tab. To assign a tab to the button, navigate to that tab's screen, then press and hold the Favorites button until it beeps.

Power On/Off

On – Press the POWER button to power on the console. Upon power up, the Aeros will begin its start up sequence.
Off – Press and briefly hold the POWER button until a confirmation screen acknowledges shut down mode.

WARNING! Wait 10 seconds before restarting the console.

RealView® Camera

The TeeJet Technologies RealView camera allows video images to be displayed on the Aeros screen. The camera can be pointed forward to enable RealView guidance over video, or it can be positioned to view other operational aspects of your equipment. The camera is equipped with a flexible RAM mount, integral sun shade and provides infrared illumination, allowing clear video images even in dark conditions.

Additional Information

All changes are saved automatically.

The console needs to be cycled off and back on when changing or attaching equipment to the Aeros system.

Start Up Sequence

The console takes approximately two minutes to power up. During this time a series of screens will be displayed, LEDs will power on and off, and brightness levels will fluctuate. Once the power up sequence has completed, the Home screen will appear.

Recommended Antenna Installation

The GNSS antenna should be mounted as far forward as possible on top of the cab on a metal surface of at least 4 in / 10 cm square.

USB Ports

The two USB ports should not be used at the same time.

BASIC SCREEN USE

The Aeros 9040 can be used as a simple current job system or advanced multi-job system. Regardless of which mode the console is in, the basic screen functions are the same.

- Bottom Tabs and Side Tabs access the various screens and sub-screens
- Warnings and Information Pop-ups inform user of console activities and details on setup or guidance functions
- Setup options can easily be set using the drop down menus or keyboard entry screens

To quickly find a setup feature, see "Aeros Console Menu Settings" in this manual.

Bottom Tab Keys

The bottom tab keys are always available on screen. These keys give access to jobs, setup options, and navigation.

Home/Job Screen

System Setup

Vehicle View Guidance

Field View Guidance

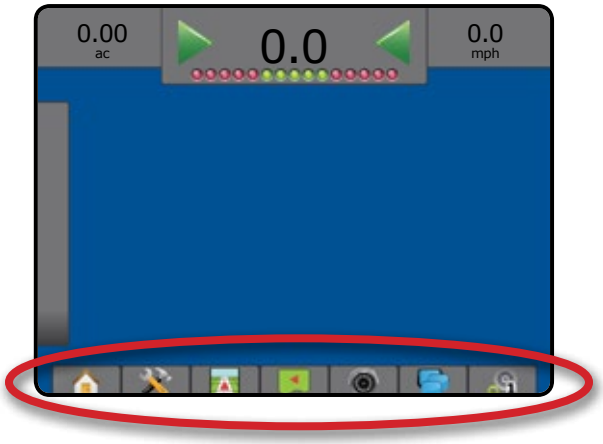
RealView guidance or
RealView camera full screen video view

NOTE: RealView Guidance options are only available with a camera installed on the system.

ISOBUS Universal Terminal

Rate Control (Dual Control Module systems only)

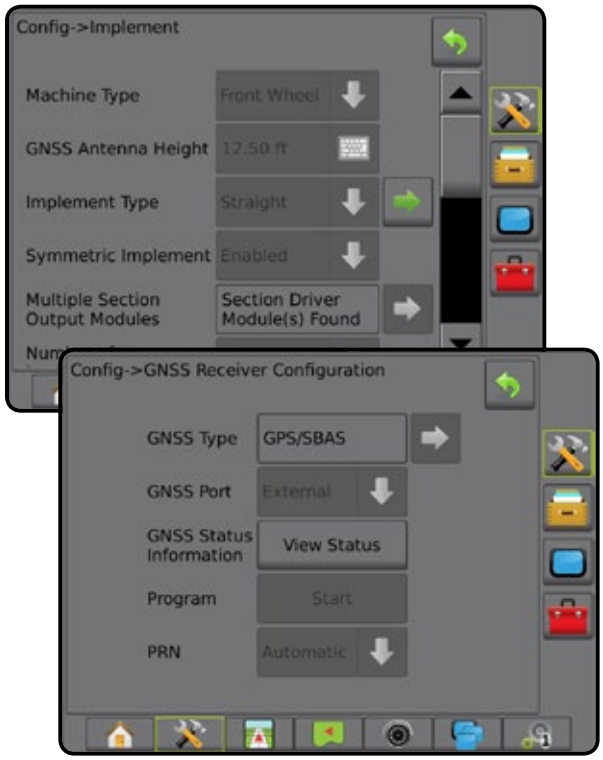
Figure 1-3: Bottom Tab Keys



Unavailable Options When Job is Active

When a job is active some setup options are unavailable: see "Aeros Console Menu Settings" in this manual.

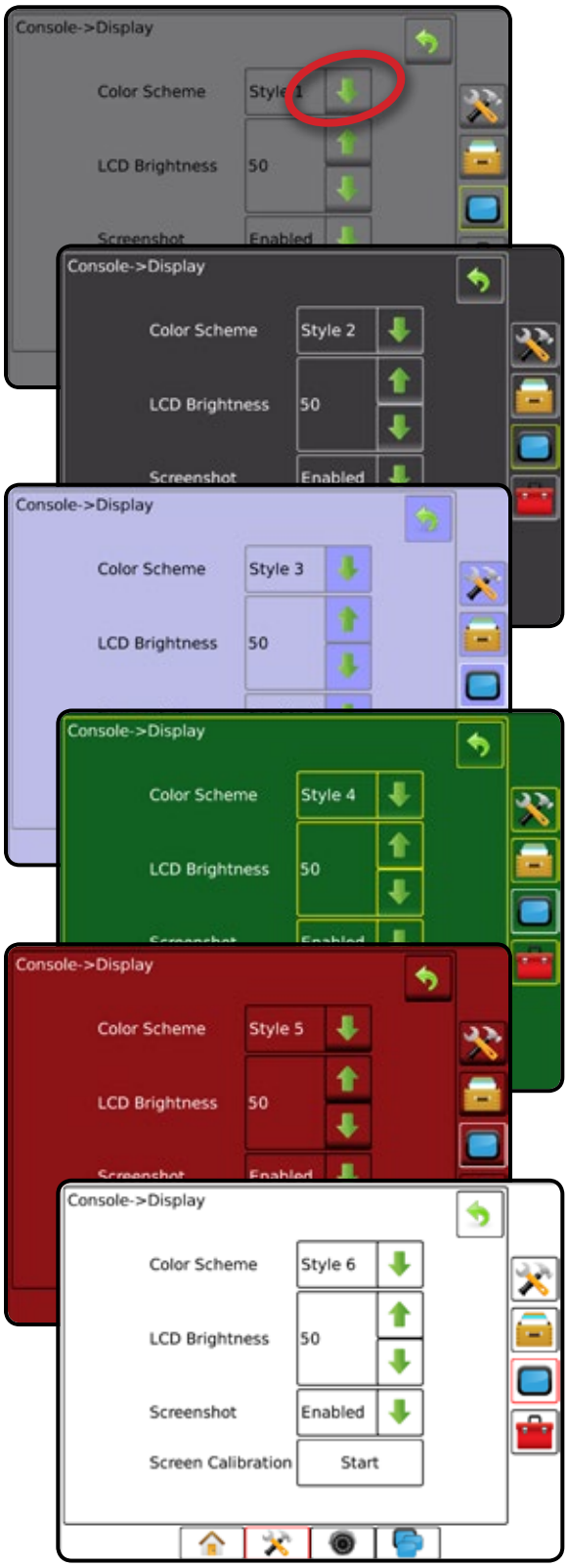
Figure 1-4: Examples of Unavailable Options



Console Screen Colors

The console is available in six color schemes. From the System Setup Bottom Key, press CONSOLE side tab and enter the **Display** options. Press DOWN arrow to access the Color Scheme options to select color mode.

Figure 1-5: Color Schemes

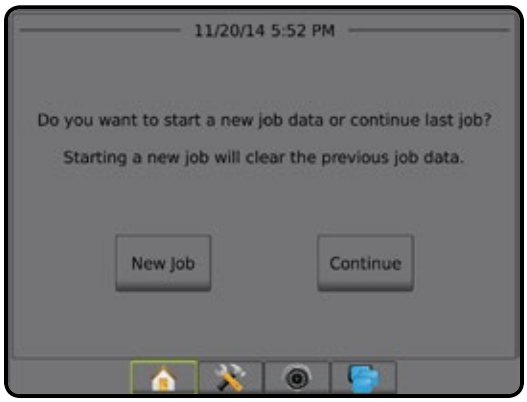


Simple or Advanced Mode

To change between simple mode and advanced mode, see the configuration chapter under Data –> Options.

In simple mode, only one job will be available at a time. Only bounded area and coverage areas are displayed on the home screen. Only the current job is available for saving in Reports. Use with Fieldware Link is not available.

Figure 1-6: Simple Mode Home Screen

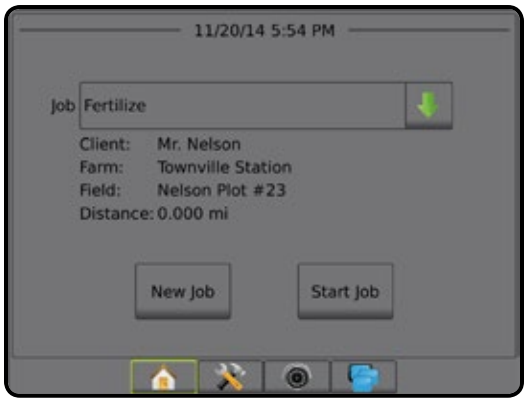

11/20/14 5:52 PM
Do you want to start a new job data or continue last job?
Starting a new job will clear the previous job data.
New Job
Continue

In advanced mode, more than one job will be available at any time. Client, farm, field and job names; bounded and coverage areas; application time; and distance from selected job are displayed on the home screen. All saved job profiles can be exported as a PDF, SHP or KML file to a USB drive using Data -> Reports.

Client information, farm information, field information, and prescription maps can only be inputted using Fieldware Link. A job name can only be edited using Fieldware Link.

A user can duplicate jobs for reuse of boundaries, guidelines, coverage data and prescription maps using Fieldware Link or Data -> Job Data -> Manage in the console.

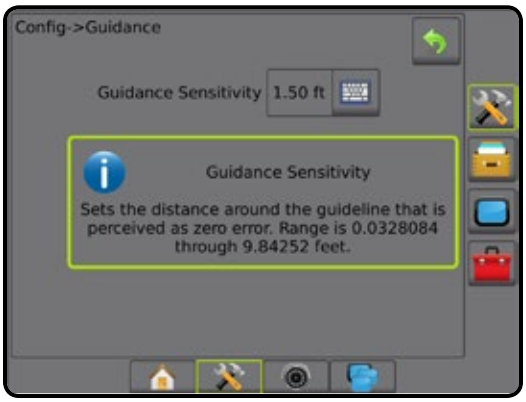
Figure 1-7: Advanced Mode Home Screen



Warnings and Information Pop-ups

A pop-up warning or information box will be displayed for approximately five (5) seconds. To remove the information box, tap anywhere on the screen.

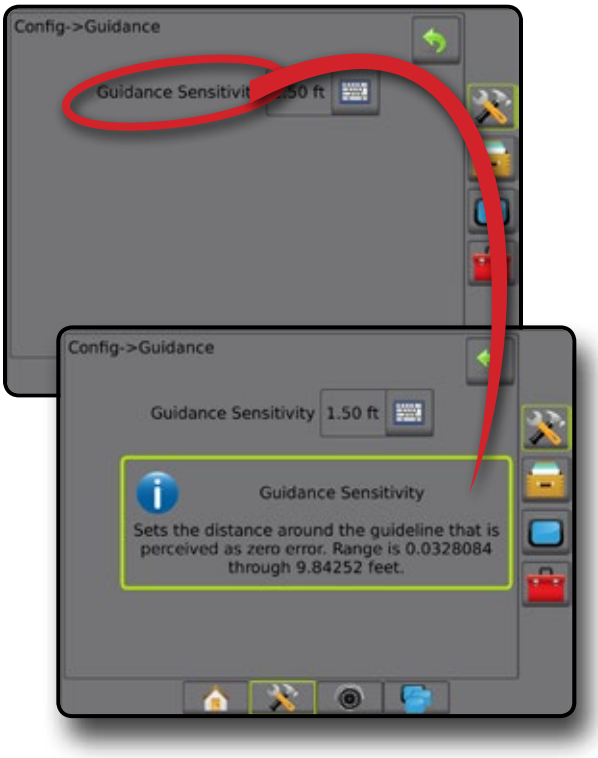
Figure 1-8: Example of Information Text Box


Config->Guidance
Guidance Sensitivity 1.50 ft
Guidance Sensitivity
Sets the distance around the guideline that is perceived as zero error. Range is 0.0328084 through 9.84252 feet.

Setup Option Information

Press the option's icon or option's name of any menu item to display a definition and range values of that item. To remove the information box, press anywhere on the screen.

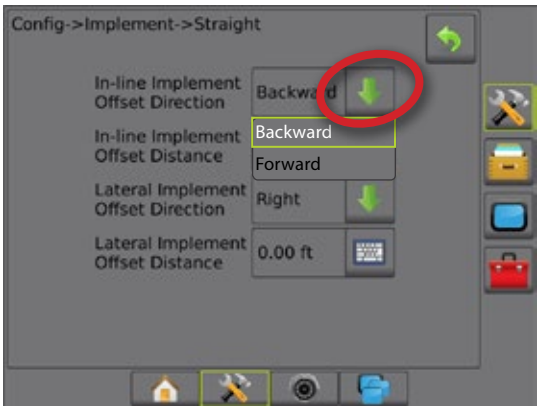
Figure 1-9: Example of Information Text Box


Config->Guidance
Guidance Sensitivity 1.50 ft
Guidance Sensitivity
Sets the distance around the guideline that is perceived as zero error. Range is 0.0328084 through 9.84252 feet.

Drop Down Menu Selections

Press DOWN arrow to access the options. Use the UP/DOWN arrows or slide bar if necessary to scroll through the extended list. Select the appropriate option. To close the list without selecting an option, tap anywhere on the screen outside the drop down menu.

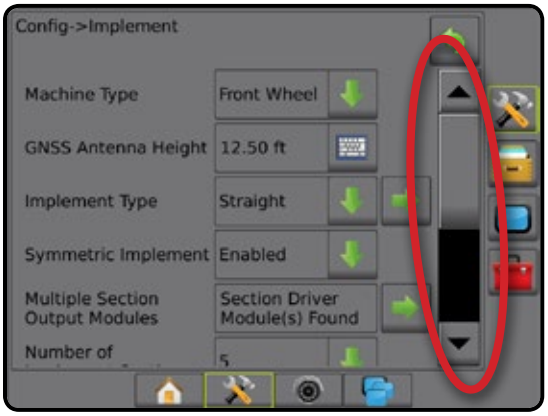
Figure 1-10: Example of Drop Down Menu



Scrolling Screens

Some screens have more information or options that are visible beyond the current screen. Use the UP/DOWN arrows or slide bar to access additional options or information not currently visible on the screen.

Figure 1-11: Example of Scrolling Screen

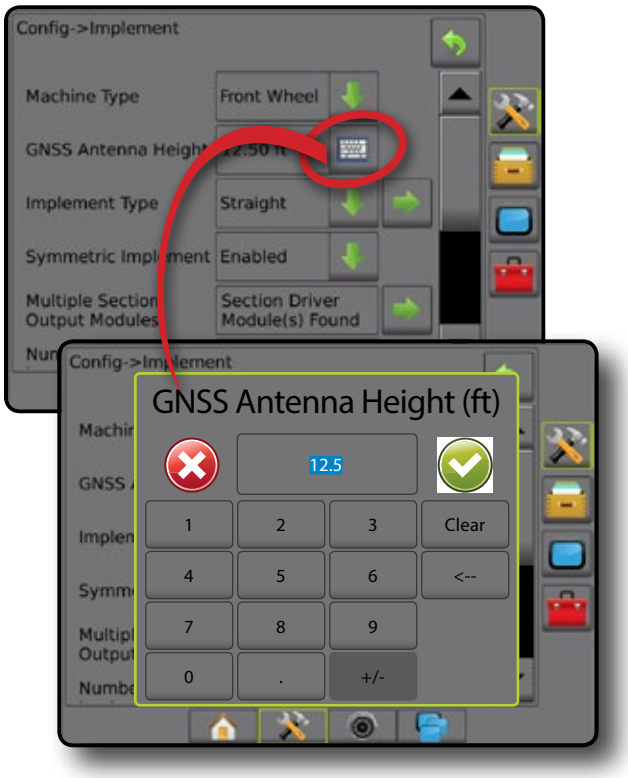


Keyboard Entry Screen

Press the KEYPAD icon. Use the numeric keypad to enter a value.

Press the ACCEPT icon to save the settings or the CANCEL icon to leave the keypad without saving.

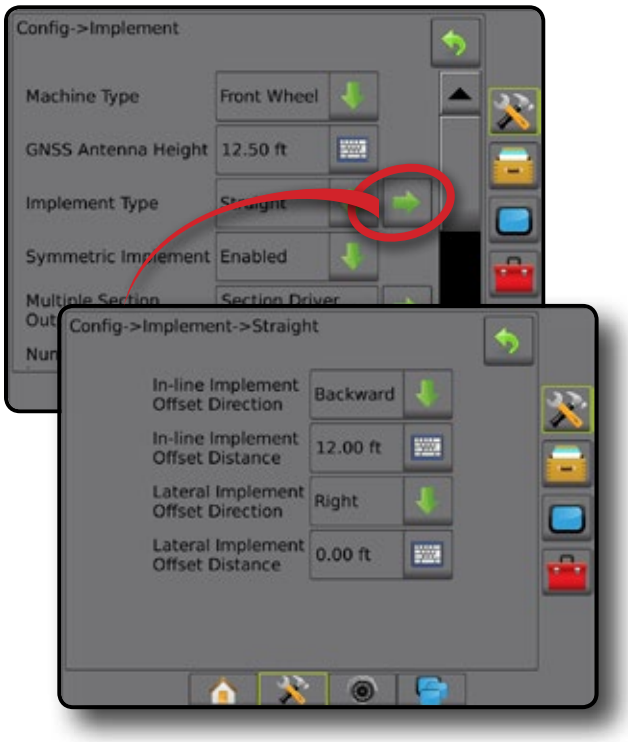
Figure 1-12: Example of Keyboard



Next Page

Press the NEXT PAGE arrow to set up additional options for the selected item.

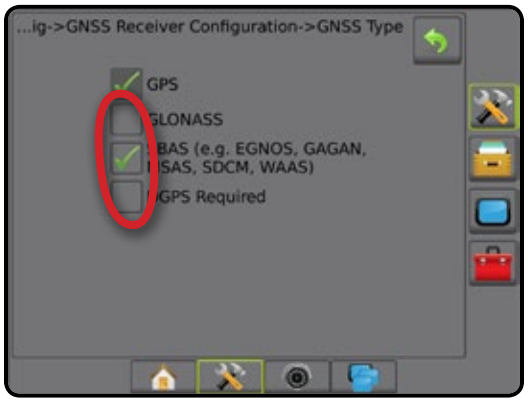
Figure 1-13: Example of Next Page



Checkboxes

Press the CHECKBOX / to select or deselect.

Figure 1-14: Examples of Checkboxes



CHAPTER 2 – JOBS / HOME SCREEN

Once the power up sequence has completed and the console is receiving GNSS, the Home screen will appear with the option to start a new job or continue an existing job.

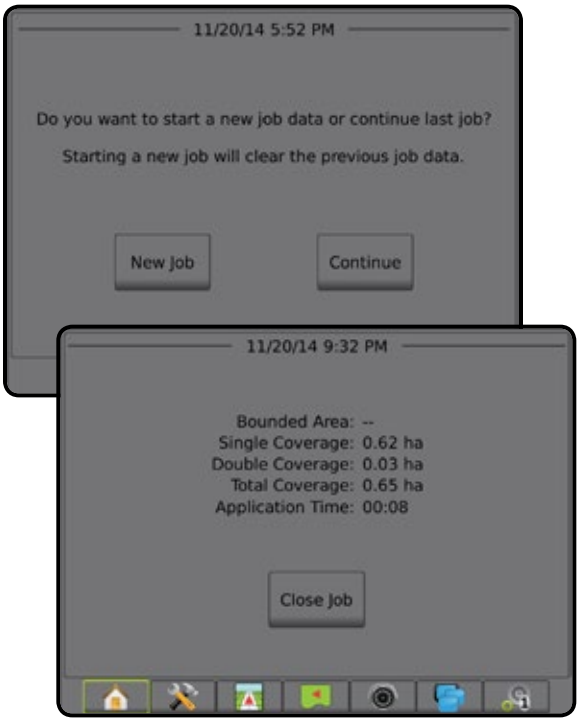
Setup for the specific machine and its components must be completed before starting a job. Once a job is active, some setup options can no longer be changed. See "Aeros Console Menu Settings" in the appendix of this manual.

To change between simple and advanced mode, go to Data-> Options-> Job Mode in the System Setup.

Simple Mode

In simple mode, only one job will be available at a time. Only bounded area, coverage areas, and application time are displayed on the home screen. Only the current job is available for saving in Reports. Use with Fieldware Link is not available.

Figure 2-1: Simple Mode Home Screen


11/20/14 5:52 PM
Do you want to start a new job data or continue last job?
Starting a new job will clear the previous job data.
New Job
Continue
11/20/14 9:32 PM
Bounded Area: --
Single Coverage: 0.62 ha
Double Coverage: 0.03 ha
Total Coverage: 0.65 ha
Application Time: 00:08
Close Job

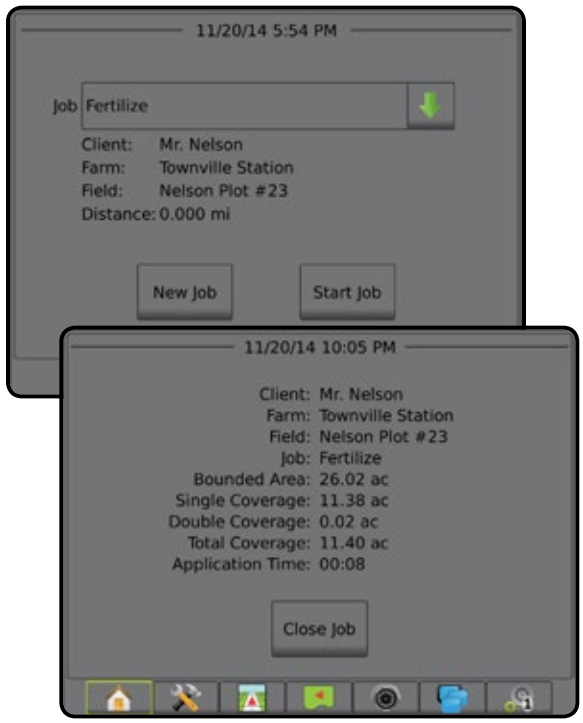
Advanced Mode

In advanced mode, more than one job will be available at any time. Client, farm, field and job names; bounded and coverage areas; application time; and distance from selected job are displayed on the home screen. All saved job profiles can be exported as a PDF, SHP or KML file to a USB drive using Data -> Reports.

Client information, farm information, field information, and prescription maps can only be inputted using Fieldware Link. A job name can only be edited using Fieldware Link.

A user can duplicate jobs for reuse of boundaries, guidelines, coverage data and prescription maps using Fieldware Link or Data -> Job Data -> Manage in the console.

Figure 2-2: Advanced Mode Home Screen



SIMPLE MODE

Once the power up sequence has completed, the Home screen will appear with the option to start a new job or continue an existing job.

The console must have GNSS before starting or continuing a job.

New Job

Starting a new job will clear the previous job data.

To start a New Job:

1. On the Home screen, press **New Job**.

The console will jump to Vehicle View.

Continue Job

To continue the existing job:

1. On the Home screen, press **Continue**.

The console will jump to Vehicle View and begin providing navigation information.

Distance

If a selected job is in a UTM zone other than the current or adjacent UTM zone, "Out of Range" will be displayed next to Distance, and **Continue** will be disabled.

NOTE: For more information, see the UTM Zone Appendix.

If a selected job has no recorded information, Distance will show "No Data".

Close Job

To close a job:

1. On the Home screen, press **Close Job**.

To create a report of the job when closing a job:

1. Insert a USB drive into the USB port of the console.
2. On the Home screen, press **Close Job**.
3. Select:
   - ► Yes – to create a report of the last job
   - ► No – to return to the Home screen without saving

ADVANCED MODE

Once the power up sequence has completed, the Home screen will appear with the option to start a new job or continue an existing job.

The console must have GNSS before starting or continuing a job.

New Job

Starting a new job will clear the previous job data.

To start a New Job:

1. On the Home screen, press **New Job**.
2. Press:
   - ► Yes – to automatically generate a name
   - ► No – to enter a name using the on screen keyboard

Client, farm, and field information are inputted using Fieldware Link.

The console will jump to Vehicle View.

Start Job

The Aeros 9040 is programmed with a field finder tool to assist the user in finding the job closest to the vehicle's location. With GPS acquired, the job pick list will be updated every ten seconds. During this update, the list of jobs is sorted by distance and the closest two jobs are displayed on the top of the list. The remaining jobs are listed beneath these.

To continue the existing job:

1. On the Home screen, press DOWN arrow to access the list of jobs saved in the console.
2. Select the job name to be started/continued.
3. Press **Start Job**.

The console will jump to Vehicle View and begin providing navigation information.

Distance

If a selected job is in a UTM zone other than the current or adjacent UTM zone, "Out of Range" will be displayed next to Distance, and **Start Job** will be disabled.

NOTE: For more information, see the UTM Zone Appendix.

If a selected job has no recorded information, Distance will show "No Data".

Close Job

To close a job:

1. On the Home screen, press **Close Job**.

To create a report of the job when closing a job:

1. Insert a USB drive into the USB port of the console.
2. On the Home screen, press **Close Job**.
3. Select:
   - ► Yes – to create a report of the last job
   - ► No – to return to the Home screen without saving

CHAPTER 3 – FULL SCREEN VIDEO VIEW

RealView Full Screen Video View allows live video input to be displayed. View video feed(s) and setup cameras without GNSS available. Options for RealView Guidance are not available on this screen.

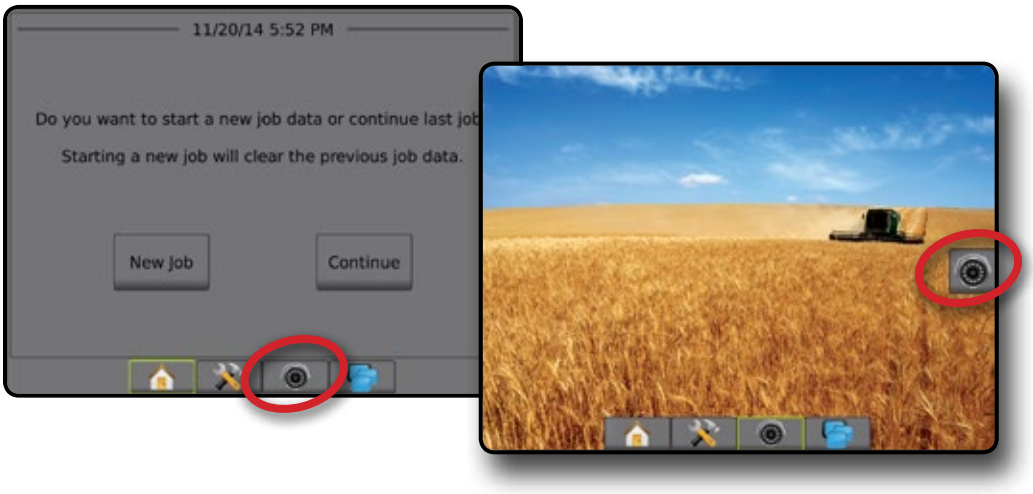
- ► Single Camera – a single camera is directly attached to the console
- ► Video Selection Module – if a Video Selection Module (VSM) is installed on the system, two (2) video options are available:
  - One Camera View – one of up to eight camera inputs can be selected to change the view of the video input.
  - Split Camera View – one of two sets of four camera inputs (A/B/C/D or E/F/G/H) can be selected to divide the screen into four separate video feeds.

To adjust the camera view [reverse, upside down], go to Setup-> Configuration-> Video.

To enter Full Screen Video mode:

1. Press REALVIEW CAMERA FULL SCREEN VIDEO VIEW bottom tab .
2. Press REALVIEW OPTIONS tab to display RealView options.
3. Select from:
   - ► Single Camera View [VSM only] – one (1) of up to eight (8) camera inputs can be selected to change the view of the video input
   - ► Split Camera View [VSM only] – one (1) of two (2) sets of four (4) camera inputs (A/B/C/D or E/F/G/H) can be selected to divide the screen into four separate video feeds
   - ► RealView Camera Image Capture – saves a still photo of the current view on the screen to a USB drive

Figure 3-1: RealView Full Screen Video View


11/20/14 5:52 PM
Do you want to start a new job data or continue last job
Starting a new job will clear the previous job data.
New Job
Continue

Camera Snapshot

RealView Camera Snapshot saves a still photo of the current view on the screen to a USB drive.

1. Insert USB drive.
2. Press REALVIEW CAMERA FULL SCREEN VIDEO VIEW bottom tab .
3. Press REALVIEW OPTIONS tab to display RealView options.
4. Press CAMERA SNAPSHOT icon .

Figure 3-2: RealView Camera Full Screen Video View

VSM Camera Options

If a Video Selection Module (VSM) is installed on the system, two (2) video options are available:

1. Press REALVIEW CAMERA FULL SCREEN VIDEO VIEW bottom tab .
2. Press REALVIEW OPTIONS tab to display RealView options.
3. Select from:
   - ► Single Camera View – one (1) of up to eight (8) camera inputs can be selected to change the view of the video input.
   - ► Split Camera View – one (1) of two (2) sets of four (4) camera inputs (A/B/C/D or E/F/G/H) can be selected to divide the screen into four separate video feeds.

Figure 3-3: Single Camera Selection with VSM

Figure 3-4: Select Split View with VSM

CHAPTER 4 – SYSTEM SETUP

System Setup is used to configure the console, the machine and its implements. Four side tabs access options for Machine/Implement Configuration, Data Management, Console Settings, and Tools.

OVERVIEW

Four side tabs access setup options for:

Implement Configuration

- Implement (Straight, Spreader, or Staggered Implement configurations; Tip Selection information including Droplet Size Monitor; Ground Speed Override, Reverse configuration)
- Guidance Sensitivity
- AutoSteer (Valve Setup, Steering Settings, Valve Test, Valve Diagnostics, Steering Wheel Sensor, Steering Angle Sensor)
- Tilt Correction
- GNSS Receiver Configuration
- Video Configuration
- Sensors (Input/Output Module (IOM) Pressure Sensor)
- Tip Flow Monitor
- ISOBUS Configuration
- Control Channels (Device Setup, Product Control Channel, TankMatic)
- Product Configuration

Data Management

- Job Data (Transfer, Manage)
- Reports
- Options (Job Mode)
- Machine Settings (Transfer, Manage)

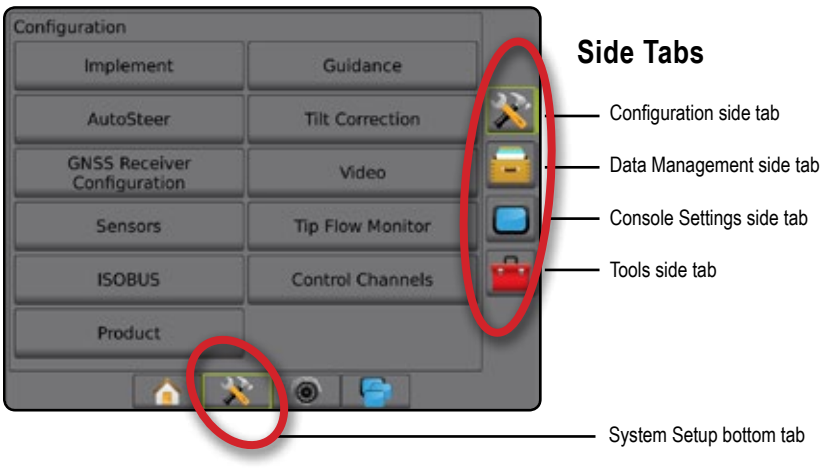
Console Settings

- About (System Information)
- Display
- Cultural
- Audio Volume
- Demo GNSS
- Feature Unlock

Tools

- Upload Software
- Extras (Calculator, Units Converter)

Figure 4-1: Setup Options



CONFIGURATION

Configuration is used to configure the Implement, Guidance, AutoSteer, Tilt Correction, GNSS Receiver, Video, Sensors, Tip Flow Monitor, ISOBUS, Control Channels, and Product.

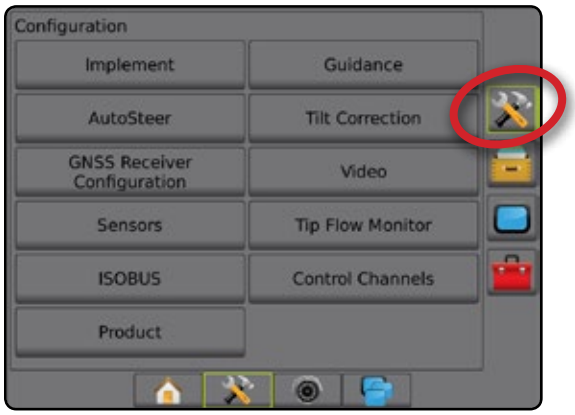
NOTE: Feature availability will vary depending on the devices available on the Aeros 9040 system.

1. Press SYSTEM SETUP bottom tab .
2. Press CONFIGURATION side tab .
3. Select from:

- ▶ Implement – used to set (as appropriate) machine type, GNSS antenna height, implement type, symmetric implement layout, section output modules, number of implement sections, guidance width, application/working width, droplet size monitor, tip selection, tip spacing, BoomPilot start mode, Reverse Sense Module
  - ● In Straight Mode – in-line/lateral implement offset direction/ distance, overlap percentage, implement delay on/off time
  - ● In Spreader Mode:
    TeeJet – antenna to disks distance, lateral implement offset direction/distance, overlap percentage, delay on/off times, spread offset distance, section offset distances, section lengths
    OEM – antenna to disks distance, lateral implement offset direction/distance, start/stop distance, section start/stop offset distances
  - ● In Staggered Mode – in-line/lateral section 1 offset direction/ distance, overlap percentage, delay on/off times, section offsets
- ▶ Guidance – used to set the distance around the guideline that is perceived as zero error
- ▶ AutoSteer – used to enable/disable assisted/auto steering, as well as establish valve setup settings, steering settings, steering wheel and steering angle sensor settings, and to perform valve tests or valve diagnostics
- ▶ Tilt Correction – used to enable/disable and calibrate the tilt correction function, and improve application on hilly or sloped terrain
- ▶ GNSS – used to establish GNSS type, port, and PRN, as well as to view GNSS status information
- ▶ Video – used to set up individual cameras
- ▶ Sensors – used to establish pressure sensor settings
- ▶ Tip Flow Monitor – used to establish tip configuration, and to establish and calibrate flow limits and alarm behavior for tip flow monitors
- ▶ ISOBUS – used to select information for broadcast over the ISOBUS, and in troubleshooting
- ▶ Control Channels – used to configure the product Control device, Control Channels, and TankMatic:
  - ● Product Control device – used to select a Dual Control Module (DCM), and associate specific DCMs with a Product Control Channel and TankMatic
  - ● Product Control Channel – used to configure application, valve, sensor, and monitor settings for the Control Channel
  - ● TankMatic (automatic tank filling system) – used to configure tank/bin sensor type, maximum/minimum content, and automatic filling offset

  NOTE: Control Channels options are available only when the system includes a Dual Control Module.
- ▶ Product – used to configure product name, tank/bin volumes, target application rates, increment for adjusting target rates, and color mapping maximum/minimum rate limits and corresponding display colors

Figure 4-2: Configuration Options



Implement

Implement Setup is used to establish the various settings associated with straight mode, spreader mode, or staggered mode. Available settings will vary depending on the specific equipment present in the system.

This section includes setup options for these implement configurations:

- ▶ Single Section
- ▶ Single Section with Dual Control Module
- ▶ Section(s) with ISOBUS Sprayer/Spreader Setup
- ▶ Multiple Sections with Section Driver Module or Switch Function Module
- ▶ Multiple Sections with Section Driver Module or Switch Function Module ***and*** Dual Control Module with Input Status Module or Automatic Switch Box

NOTE: For more information, see the Implement chapter of this manual.

Implement Type

Implement type selects the type of application pattern that most closely represents your system.

- In Straight Mode – the boom sections have no length and are on a line a fixed distance from the antenna
- In Spreader Mode – a virtual line is created in line with the delivery disks from which the application section or sections can vary in length and can be at different distances from the line (availability depends on the specific equipment in the system)
- In Staggered Mode – a virtual line is created in line with Section 1 from which the application section or sections have no length and can be at different distances from the antenna (availability depends on the specific equipment in the system)

NOTE: For more information, see "Implement Type" in the Implement chapter of this manual.

Figure 4-3: Implement Type – Straight

Figure 4-4: Implement Type – Spreader

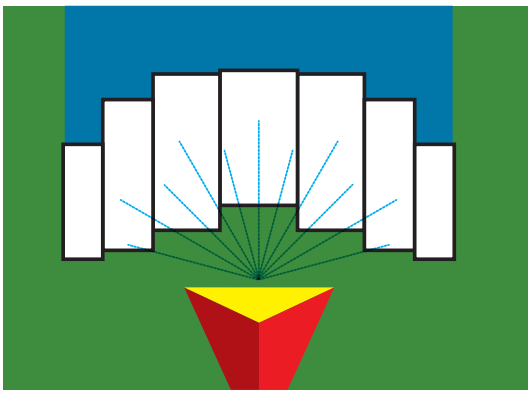


Figure 4-5: Implement Type – Staggered

Single Section Setup

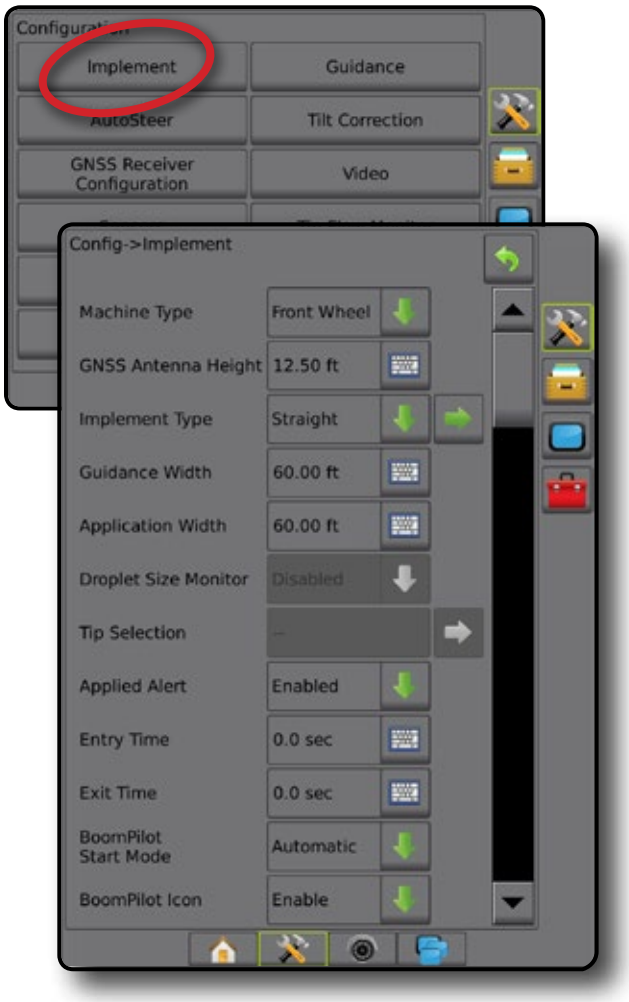
Single Section Setup is used when a SmartCable, Section Driver Module (SDM), or Switch Function Module (SFM) is not on the system (that is, no section control is present). The entire boom or delivery area is considered to be one section.

1. Press CONFIGURATION side tab .
2. Press **Implement**.
3. Select from:
   - ▶ Machine Type – used to select the type of machine that most closely represents your machine
   - ▶ GNSS Antenna Height – used to measure the height of the antenna from the ground
   - ▶ Implement Type – used to select the layout of the sections for the applied product location
   - ▶ Guidance Width – used to set the distance between guidelines
   - ▶ Working Width [Spreader Implement Type] – used to enter the total width of the implement
   - ▶ Application Width [Straight Implement Type] – used to enter the total width of the implement
   - ▶ Droplet Size Monitor [when available] – used to enable droplet size monitoring for up to five preselected sprayer tips

- Tip Selection [when available] – used to select the type of sprayer tip (series and capacity) for determining droplet size information
- Applied Alert – used to establish an alert to signal when exiting or entering an applied area
- BoomPilot Start Mode – used to establish whether BoomPilot will be controlled by speed or by the BoomPilot icon
- BoomPilot Icon – used to activate the guidance screen icon for manually controlling on-screen application painting

4. Press NEXT PAGE arrow to set up specific implement options. See the Implement chapter for details.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-6: Implement – Single Section Setup



Single Section with DCM Setup

Single Section with Dual Control Module Setup is used when a Section Driver Module (SDM) is not on the system (that is, no section control is present), and a Dual Control Module (DCM) is on the system. The entire boom or delivery area is considered to be one section.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Select from:
   - Machine Type – used to select the type of machine that most closely represents your machine
   - GNSS Antenna Height – used to measure the height of the antenna from the ground
   - Implement Type – used to select the layout of the sections for the applied product location
   - Guidance Width – used to enter the distance between the guidelines
   - Working Width [Spreader Implement Type] – used to enter the total width of the implement
   - Application Width [Straight Implement Type] – used to enter the total width of the implement
   - Droplet Size Monitor [when available] – used to enable droplet size monitoring for up to five sprayer tips
   - Tip Selection [when available]– used to select the type of sprayer tip (series and capacity) for determining droplet size information
   - Tip Spacing [Straight Implement Type and Liquid Product Control Application Type] – used to enter spacing between sprayer tips
   - Ground Speed Override – used to set the minimum speed for use with automatic application rate control
   - Applied Alert – used to establish an alert to signal when exiting or entering an applied area
   - BoomPilot Start Mode – used to enable automatic BoomPilot activation by speed (otherwise manually by icon)
   - BoomPilot Icon – used to activate icon for manually controlling BoomPilot
4. Press NEXT PAGE arrow to set up specific implement options. See the Implement chapter for details.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

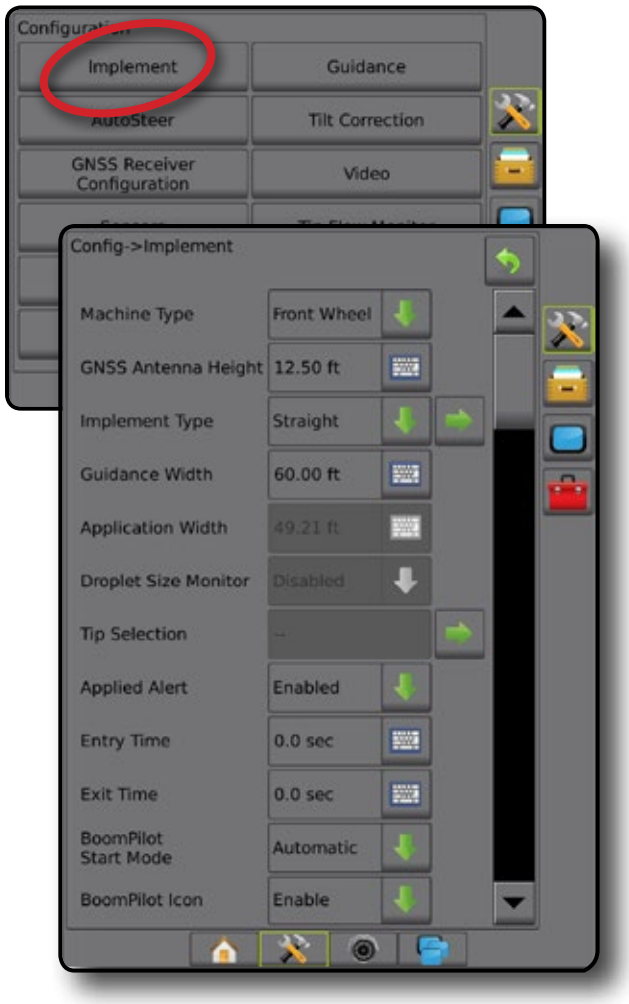
Figure 4-7: Implement – Single Section with DCM Setup

Section(s) with ISOBUS Sprayer/Spreader Setup

Some Implement options are completed on the ISOBUS ECU. When these options are also available in the Implement Setup section, they will be grayed out or unavailable.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Select from:
   - ▶ Machine Type – used to select the type of machine that most closely represents your machine
   - ▶ GNSS Antenna Height – used to measure the height of the antenna from the ground
   - ▶ Implement Type – used to select the layout of the sections for the applied product location
   - ▶ Guidance Width – used to enter the distance between the guidelines
   - ▶ Application Width [Straight Implement Type completed on ISOBUS ECU] – used to enter the total width of the implement
   - ▶ Working Width [Spreader Implement Type completed on the ISOBUS ECU] – used to enter the total width of the implement
   - ▶ Droplet Size Monitor [available only with Pressure Sensor Interface Kit] – used to enable droplet size monitoring for up to five sprayer tips
   - ▶ Tip Selection [Straight Implement Type completed on the ISOBUS ECU] – used to select the type of sprayer tip
   - ▶ Applied Alert – used to establish an alert to signal when exiting or entering an applied area
   - ▶ BoomPilot Start Mode – used to control BoomPilot automatically by speed, or manually by BoomPilot icon
   - ▶ BoomPilot Icon – used to activate icon for manually controlling BoomPilot
4. Press NEXT PAGE arrow to set up specific implement options. See the Implement chapter for details.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-8: Implement – with ISOBUS Setup



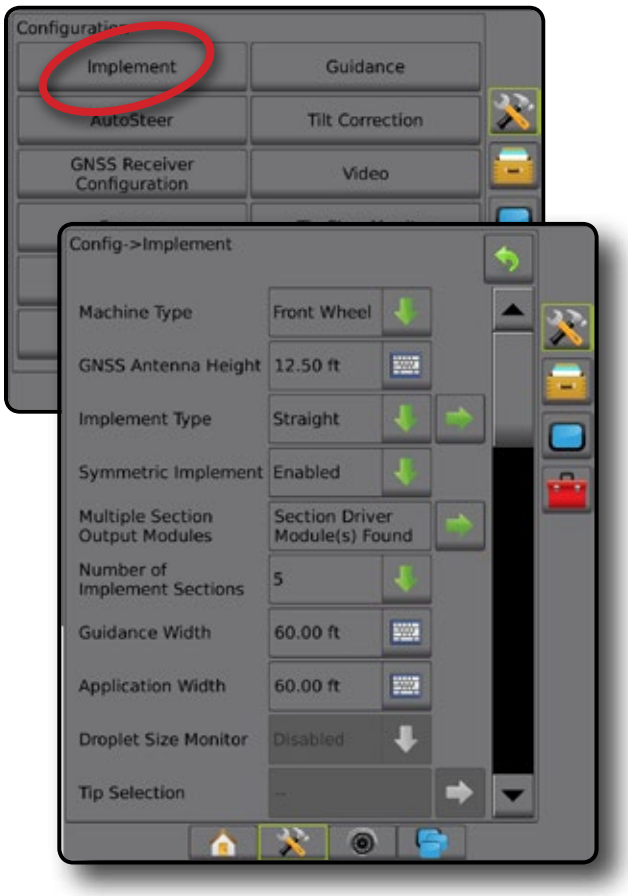
Multiple Sections with SDM/SFM Setup

Multiple Sections with SDM/SFM Setup is used when a Section Driver Module (SDM) or Switch Function Module (SFM) is on the system. The boom or delivery area can include up to 15 sections of varying width and (in spreader mode) length. Additional options available with an SDM include Application Overlap, Application Delay, and Staggered Mode.

The Switch Function Module enables manual and automated control of up to 20 booms.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Select from:
   - ▶ Machine Type – used to select the type of machine that most closely represents your machine
   - ▶ GNSS Antenna Height – used to measure the height of the antenna from the ground
   - ▶ Implement Type – used to select the layout of the sections for the applied product location
   - ▶ Symmetric Implement – used to establish if sections are paired and therefore share the same width, offset, and length values
   - ▶ Multiple Section Output Modules – used to enable use of multiple section output modules on the CAN bus
   - ▶ Number of Implement Sections – used to select the number of implement sections
   - ▶ Guidance Width – used to enter the distance between the guidelines
   - ▶ Application Width [Straight or Staggered Implement Type] – used to enter the total width of all sections of the implement
   - ▶ Working Width [Spreader Implement Type] – used to enter the total width of the implement
   - ▶ Droplet Size Monitor [when available] – used to enable droplet size monitoring for up to five preselected sprayer tips
   - ▶ Tip Selection [Straight or Staggered Implement Type] – used to select the type of sprayer tip
4. Press NEXT PAGE arrow to set up specific implement options. See the Implement chapter for details.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-9: Implement – Multiple Sections with SDM or SFM Setup



Multiple Sections with SDM/SFM *and* DCM with ISM/ASB Setup

Multiple Sections with SDM/SFM and DCM with ISM/ASB Setup is used when a Section Driver Module (SDM) or Switch Function Module (SFM) is on the system along with a Dual Control Module (DCM) with either a Input Status Module (ISM) or Automatic Switch Box (ASB). The boom or delivery area can include up to 15 sections of varying width and (in spreader mode) length. Additional options available with an SDM include Application Overlap, Application Delay, and Staggered Mode.

A Switch Function Module enables manual and automated boom control (expandable to 20).

A Dual Control Module (DCM) connects to product implement actuators and sensors, and controls release of the product by providing the rate control function for the CAN Bus. Valve Control outputs can be bidirectional or Pulse Width Modulated.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Select from:
   - ▶ Machine Type – used to select the type of machine that most closely represents your machine
   - ▶ GNSS Antenna Height – used to measure the height of the antenna from the ground
   - ▶ Implement Type – used to select the layout of the sections for the applied product location
   - ▶ Symmetric Implement – used to establish if sections are paired and share the same width, offset, and length values
   - ▶ Multiple Section Output Modules – used to enable use of multiple section output modules on the CAN bus
   - ▶ Number of Implement Sections – used to select the number of implement sections
   - ▶ Guidance Width – used to enter the distance between the guidelines
   - ▶ Application Width [Straight or Staggered Implement Type] – used to enter the total width of all sections of the implement
   - ▶ Tip Spacing – used to enter spacing between sprayer tips
   - ▶ Ground Speed Override – used to set the minimum speed for use with automatic application rate control
4. Press NEXT PAGE arrow to set up specific implement options. See the Implement chapter for details.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-10: Implement – Multiple Sections with SDM/SFM and ISM/ASB Setup

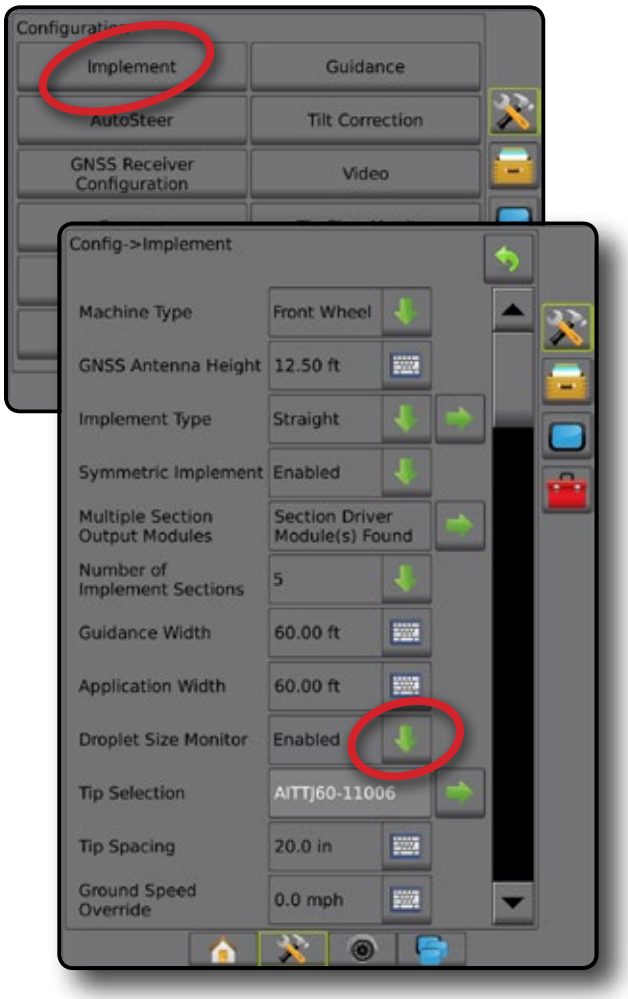
Droplet Size Monitor

When the system includes a Pressure Sensor Interface Kit (PSIK), or a Dual Control Module with Product Control Application Type set to "Liquid" and the Primary Sensor or a Monitor set to "Pressure", Droplet Size Monitor can be enabled/disabled. The DSM then becomes available on the operation screens.

NOTE: For more information, see "Droplet Size Monitor" in the Implement chapter of this manual.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Select if Droplet Size Monitor is enabled or disabled. (If enabling, also read displayed information and press **Accept**.)
4. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-11: Droplet Size Monitor



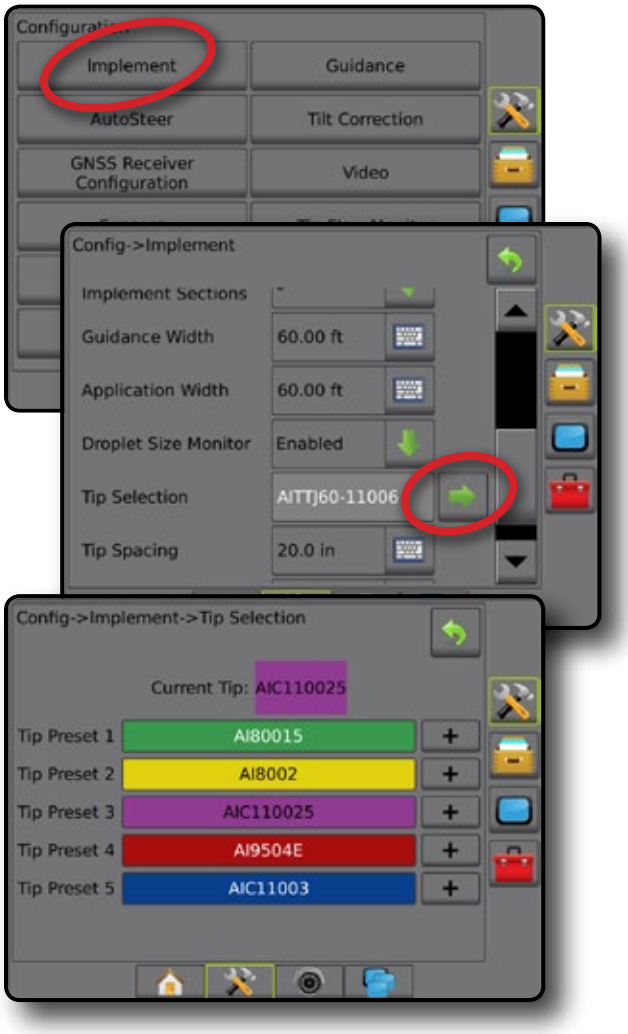
Tip Selection

Tip Selection enables up to five (5) tips to be preset for quick recall, and the current tip to be selected.

NOTE: For more information, see "Tip Selection" in the Implement chapter of this manual.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Press Tip Selection NEXT PAGE arrow.
4. Select from:
   - ▶ Tip Preset 1-5 – selects up to five (5) tips for quick recall, and selected the current tip for determining droplet size information
   - ▶ Current Tip – displays the current tip
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-12: Tip Selection



Reverse Sense Module

Reverse Sense Module Setup is used when adding a Reverse Sense Module to any configuration.

NOTE: For more information, see "Reverse Sense Module" in the Implement chapter of this manual.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Select:
   - ► Allow BoomPilot in Reverse [when available] – used to enable BoomPilot function while traveling in reverse
   - ► Reverse Signal Delay – used to set the delay when going from forward to reverse or reverse to forward, after which the vehicle icon on a navigation screen changes direction
4. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

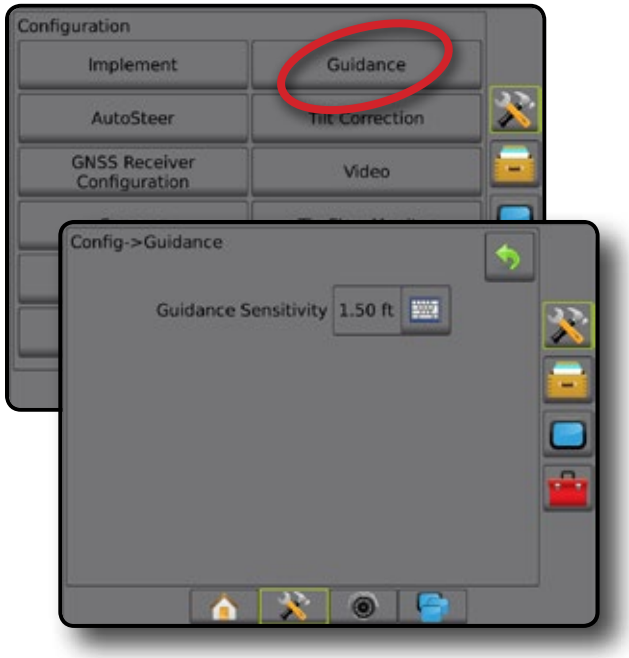
Figure 4-13: Implement – Single Section Setup With Reverse Sense Module

Guidance

Guidance options are used to configure the Cross Track Error shown on the Guidance Bar.

1. Press CONFIGURATION side tab.
2. Press **Guidance**.
3. Select:
   - ► Guidance Sensitivity – sets the distance around the guideline that is perceived as zero error.
4. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-14: Guidance



AutoSteer

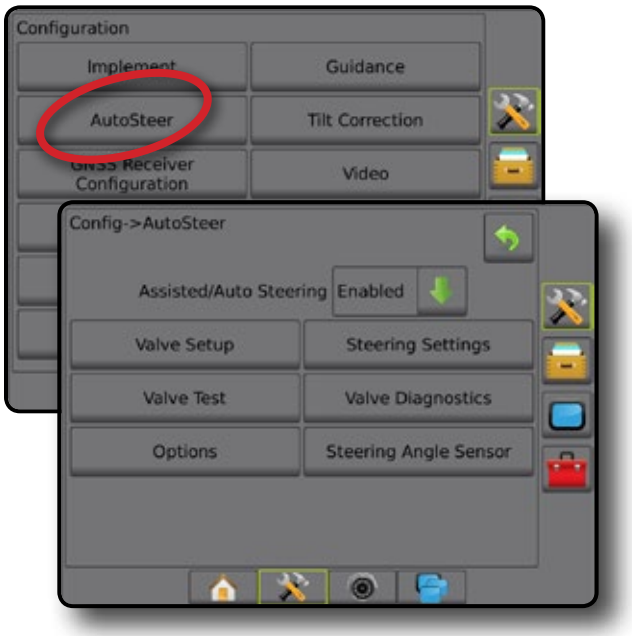
When a Steering Control Module (SCM) is present, Assisted/Auto Steering options will be available.

NOTE: For detailed setup instructions, refer to your specific assisted/auto steering installation manual.

AutoSteer setup is used to enable/disable Assisted/Auto Steering and configure Valve Setup, Steering Settings, Steering Wheel Sensor (optional), and Steering Angle Sensor, and to perform Valve Test or Valve Diagnostics.

1. Press CONFIGURATION side tab .
2. Press **AutoSteer**.
3. Select if assisted/auto steering is enabled or disabled.
4. When enabled, select from:
   - ▶ Valve Setup – used to configure Valve Type, Valve Frequency, Minimum Duty Cycle Left/Right and Maximum Duty Cycle Left/Right
   - ▶ Steering Settings – used to establish Coarse Steering Adjustment, Fine Steering Adjustment, Deadband, and Lookahead
   - ▶ Valve Test – used to verify if steering is directed correctly
   - ▶ Valve Diagnostics – used to test the valves to see if they are connected properly
   - ▶ Options: Steering Wheel Sensor – used to select whether the steering disengage sensor is magnetic or pressure sensor based
   - ▶ Steering Angle Sensor – used to establish and calibrate the Steering Angle Sensor (SAS) as the primary feedback sensor for auto steering
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-15: AutoSteer



Assisted/Auto Steering Unavailable

If an assisted/auto steering system is not installed, setup options will not be available.

Figure 4-16: Assisted/Auto Steering Not Detected

Tilt Correction

When a Steering Control Module (SCM) or Tilt Gyro Module (TGM) is present, Tilt Correction is available. This corrects the GNSS signal to compensate for errors in the GNSS position while operating on hilly or sloped terrain.

For detailed setup instructions, refer to your specific assisted/auto steering installation manual or tilt setup bulletin.

1. Press CONFIGURATION side tab .
2. Press **Tilt Correction**.
3. Select if Tilt Correction is enabled or disabled.
4. When enabled, select **Field Level** to calibrate tilt correction.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

NOTE: If FieldPilot or UniPilot is being used, a Tilt Gyro Module is built into the system.

NOTE: Antenna Height must be entered prior to Tilt Calibration.

Figure 4-17: Tilt Correction

Field Level Unavailable

If the vehicle is in motion, the field level option will not be available. Vehicle must be stopped for at least 10 seconds to begin to calibrate tilt correction.

Tilt Correction Unavailable

If an SCM or TGM is not connected, setup options will not be available.

Figure 4-18: Tilt Correction Not Detected

GNSS

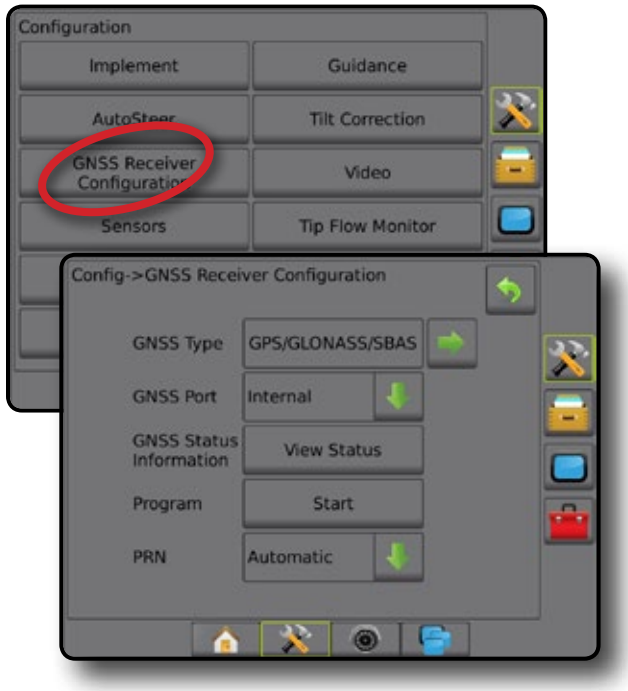
GNSS is used to configure GNSS Type, GNSS Port, and PRN, as well as to view GNSS status information.

NOTE: For more information, see the GNSS chapter of this manual.

These settings are required for assisted/auto steering, tilt sensor operation, and rate control functionality, as well as proper implement operation.

1. Press CONFIGURATION side tab.
2. Press **GNSS Receiver Configuration**.
3. Select from:
   - ▶ GNSS Type – sets to accept GNSS source transmissions: GPS, GLONASS, SBAS (with or without DGPS Required)
   - ▶ GNSS Port – sets GNSS communication port to either Internal or External
   - ▶ GNSS Status Information – displays current GNSS status information
   - ▶ Program – only TeeJet support technicians should use this feature
   - ▶ PRN – selects the SBAS PRN that will provide GNSS differential correction data. Set to **Automatic** for automatic PRN selection.
4. Press NEXT PAGE arrow to set up the selected specific GNSS options.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-19: GNSS Options



PRN Not Shown

PRN options are only available with SBAS GNSS Type selected.

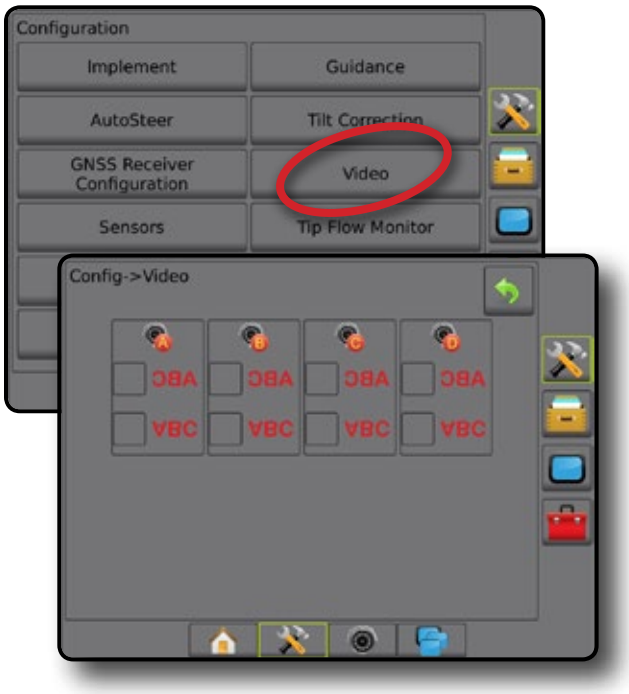
Video

Video Setup is used to set up a single directly connected camera or individual cameras while using an Eight (8) Channel or Four (4) Channel Video Selector Module (VSM). Up to 8 cameras can be configured if a VSM is installed.

1. Press CONFIGURATION side tab .
2. Press **Video**.
3. Select the appropriate check box(es):
   - ► Reverse – ƆBA
   - ► Upside Down – ∀BC

   For normal video view ABC un-check all check boxes.
4. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-20: Video with 4 Channel VSM Options



Video Setup Unavailable

If a camera or VSM is not connected, setup options will not be available.

Figure 4-21: Video Unavailable

Sensors

When a Pressure Sensor Interface Kit (specifically, an Input Output Module (IOM)) is on the system, options to set up and configure the sensor will be available.

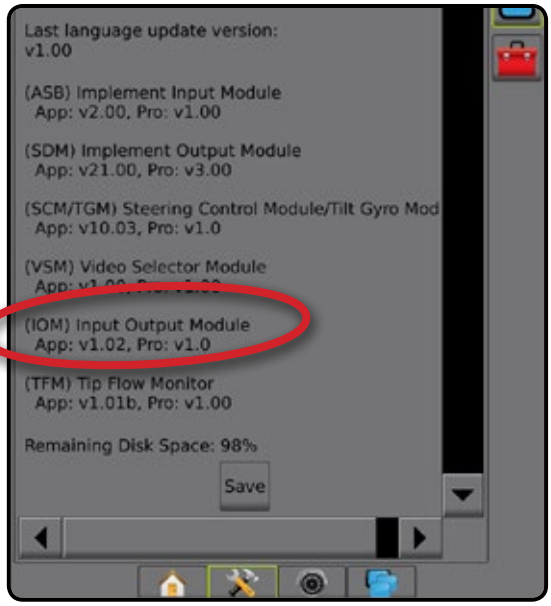
NOTE: These settings are not affected by use of a Pressure Sensor on a Dual Control Module.

1. Press CONFIGURATION side tab .
2. Press **Sensors**.

Figure 4-22: Sensors

The Pressure Sensor Interface Kit is recognized on the Console About screen as an Input/Output Module (IOM).

Figure 4-23: Input/Output Module



Sensors Unavailable

If a Pressure Sensor Interface Kit is not installed, setup options will not be available.

Figure 4-24: Pressure Sensor Interface Kit Not Detected

Input/Output Module Pressure Sensor

When a Pressure Sensor Interface Kit is present, Pressure Sensor options are used to enter the sensor manufacture's maximum pressure rating and set high and low user determined pressure alarms.

1. Press CONFIGURATION side tab.
2. Press **Sensors**.
3. Press **Input Output Module (IOM) Pressure Sensor**.
4. Select from:
   - ► Maximum Pressure Rating – used to establish the maximum pressure rating of the pressure sensor as recommended by the manufacturer
   - ► Low Pressure Alarm – used to enter the user determined low pressure point at which the alarm will sound
   - ► High Pressure Alarm – used to enter the user determined high pressure point at which the alarm will sound
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-25: Input/Output Monitor Pressure Sensor Options

Droplet Size Monitor

If a Pressure Sensor Interface Kit is being used, the Droplet Size Monitor options will be available.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Press **Droplet Size Monitor**.
4. Select if droplet size monitor is enabled or disabled.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-26: Droplet Size Monitor

Tip Flow Monitor

When a Tip Flow Monitor Kit is present, Tip Flow Monitor options are used to configure flow limits and alarm behavior, and to run the tip flow balance process.

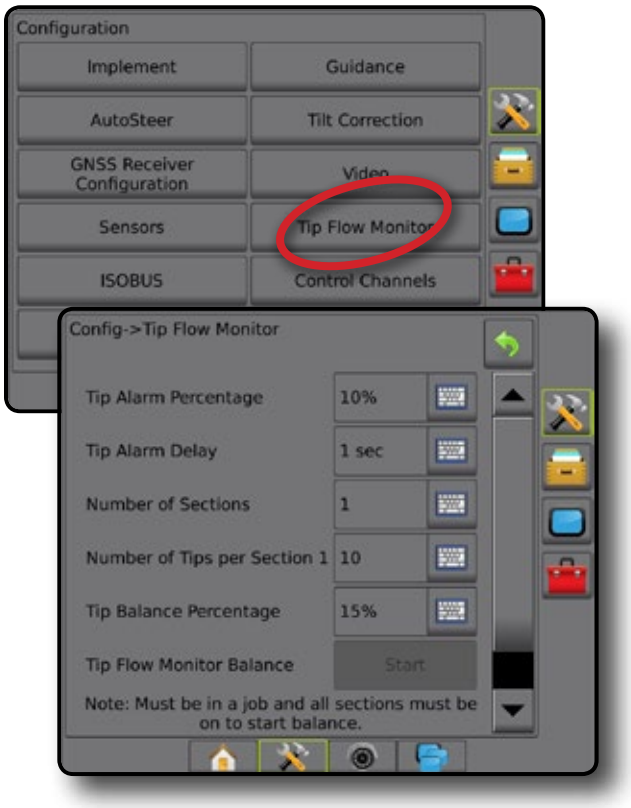
NOTE: For detailed setup instructions, refer to the supplemental Tip Flow Monitor (TFM) guide.

1. Press CONFIGURATION side tab.
2. Press **Tip Flow Monitor**.
3. Select from:
   - ▶ Tip Alarm Percentage – used to set the error reporting range for the tip sensors
   - ▶ Tip Alarm Delay – used to set the time the console will wait after an error has been encountered before sounding a tip alarm
   - ▶ Number of Sections – used to set the number of sections
   - ▶ Number of Tips per Section – used to enter the number of tips on the specified section
   - ▶ Tip Balance Percentage – used to set the range for balancing tip sensors

     NOTE: The implement must be in a job and all sections must be on to start the tip balance process.

   - ▶ Tip Flow Monitor Balance – used to start the tip flow balance process
4. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-27: Tip Flow Monitor Options

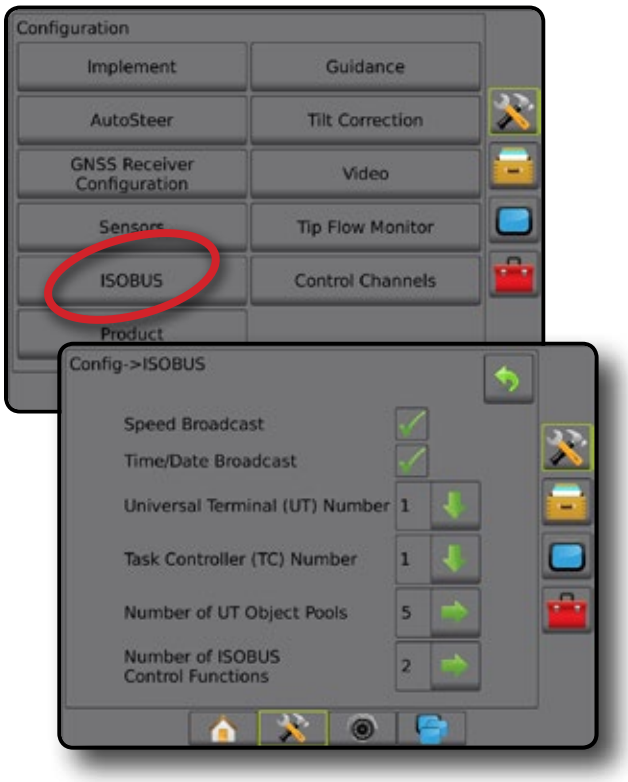


ISOBUS

When ISOBUS is in use, the ISOBUS page is used to select information for broadcast over the ISOBUS, and to verify specific information in troubleshooting.

1. Press CONFIGURATION side tab.
2. Press **ISOBUS**.
3. Select from:
   - ▶ Speed Broadcast – used to broadcast GNSS-calculated speed over the ISOBUS
   - ▶ Time/Date Broadcast – used to broadcast time and date over the ISOBUS
4. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 4-28: ISOBUS Options



*NOTE: The following items on the ISOBUS page are for use **only** by TeeJet support technicians.*

- ▶ Universal Terminal (UT) Number [support technicians only] – used to define the unique number for this specific UT
- ▶ Task Controller (TC) Number [support technicians only] – used to define the unique number for this specific TC
- ▶ Number of UT Object Pools [support technicians only] – shows the number of UT Object Pools are currently stored in the console
- ▶ Number of ISOBUS Control Functions [support technicians only] – shows the number of ISOBUS Control Functions communicating on the ISOBUS

Control Channels

When a Dual Control Module (DCM) is present, Control Channels options are available for configuring the DCM, associated Control Channels, and TankMatic (automatic tank filling system).

NOTE: For detailed setup instructions, refer to the supplemental TeeJet Rate Control guide.

1. Press CONFIGURATION side tab.
2. Press **Control Channels**.
3. Select from:
   - ▶ Device Setup – used to select a Dual Control Module (DCM), Product Control Channel, and TankMatic
   - ▶ Product Control Channel 1 – used to set up the Application Type, Drive Type, Application Units, Primary Sensor, and up to four Monitors, and to run Diagnostics
   - ▶ TankMatic – used to set up and configure an automatic tank filling system, including Sensor Presence, Minimum and Maximum Tank Content, and Automatic Filling Offset

Figure 4-29: Control Channels Options

Application Type

In addition to the type of product (Liquid or Granular) applied by the channel, the Application Type setting defines the type of product relationship between the channel and the implement. Many other Product Control Channel options (such as Application Units, Primary Sensor, and Calibration Tables) and Implement options (such as Tip Spacing) are based on the type of application chosen.

Device Setup

When a Dual Control Module (DCM) is present, Device Setup options are available for associating a device serial number to a DCM, and a DCM and identification to a Product Control Channel or TankMatic.

1. Press CONFIGURATION side tab.
2. Press **Control Channels**.
3. Press **Device Setup**.
4. Select from:
   - ▶ Dual Control Module (DCM) 1 – used to associate a serial number to the specified DCM
   - ▶ Product Control Channel 1 – used to associate a DCM number and identification to the specified Product Control Channel
   - ▶ TankMatic – used to associate a DCM number and identification to TankMatic

NOTE: Next Page arrows ➡ for Product Control Channel and TankMatic allow direct access to setup options for those features.

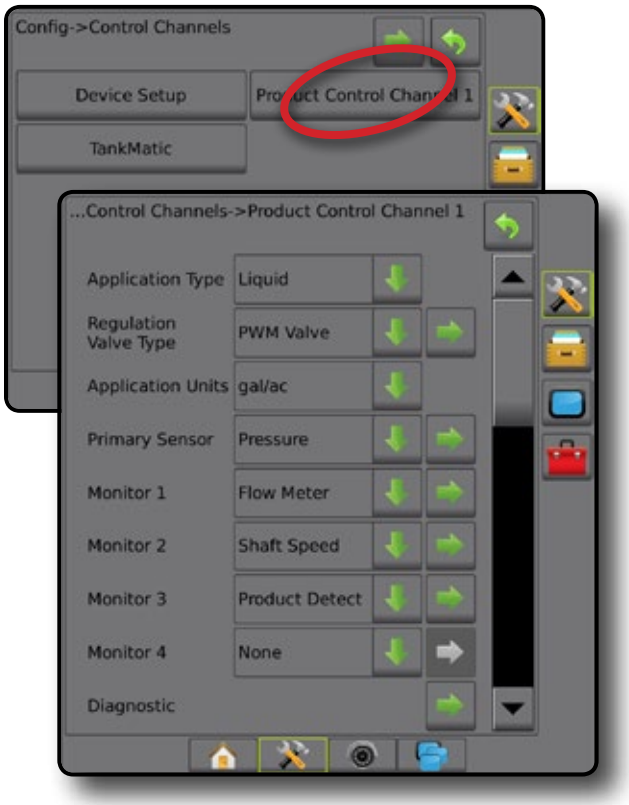
Figure 4-30: Device Setup Options

Product Control Channels

When a Dual Control Module (DCM) is present, Product Control Channels are used to configure product-control communication channels for the DCM. Product Control Channels is used to select product application type and units, regulation valve type, sensor type, and up to four monitor sensor types.

1. Press CONFIGURATION side tab .
2. Press **Control Channels**.
3. Press **Product Control Channel 1**.
4. Select from:
   - ▶ Application Type – used to select the type of product, either liquid or granular, this channel will be applying
   - ▶ Regulation Valve Type – used to select the type of drive circuit used to control product delivery for this channel
   - ▶ Application Units – used to select the units displayed to indicate the current application rate
   - ▶ Primary Sensor – used to select the feedback sensor this channel will use to measure control valve output
   - ▶ Monitor 1-4 – used to set up one or more monitors to observe the status of an application delivery system element
   - ▶ Diagnostic – used to display unformatted data from the device, for use in troubleshooting

Figure 4-31: Product Control Channel 1 Options

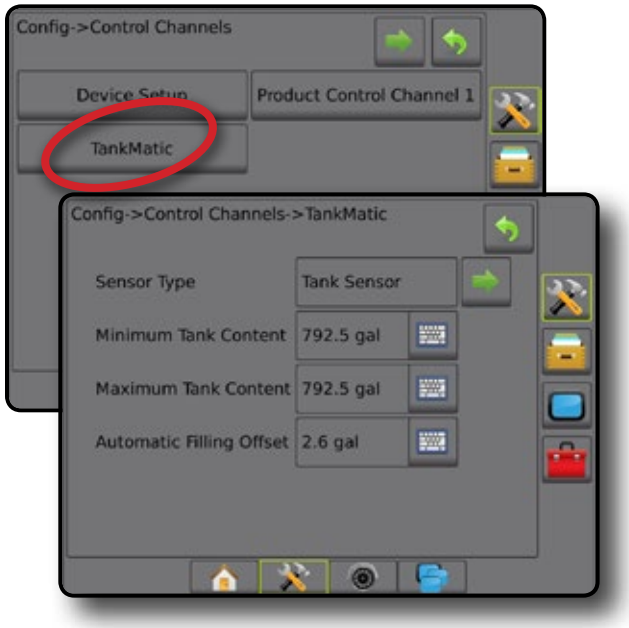


TankMatic

When a TankMatic is present, TankMatic options are available to establish the empty, minimum, and maximum levels for the tank, and to calibrate the tank shape.

1. Press CONFIGURATION side tab .
2. Press **Control Channels**.
3. Press **TankMatic**.
4. Select from:
   - ▶ Sensor Type – used to select the sensor type used to monitor the tank/bin, and to access Tank Sensor calibration
   - ▶ Minimum Tank Content – used to set the minimum content that can be in the tank
   - ▶ Maximum Tank Content – used to set the maximum possible tank volume
   - ▶ Automatic Filling Offset – used to set the volume that will continue to run into the tank after the fill valve starts closing

Figure 4-32: TankMatic Options



Product

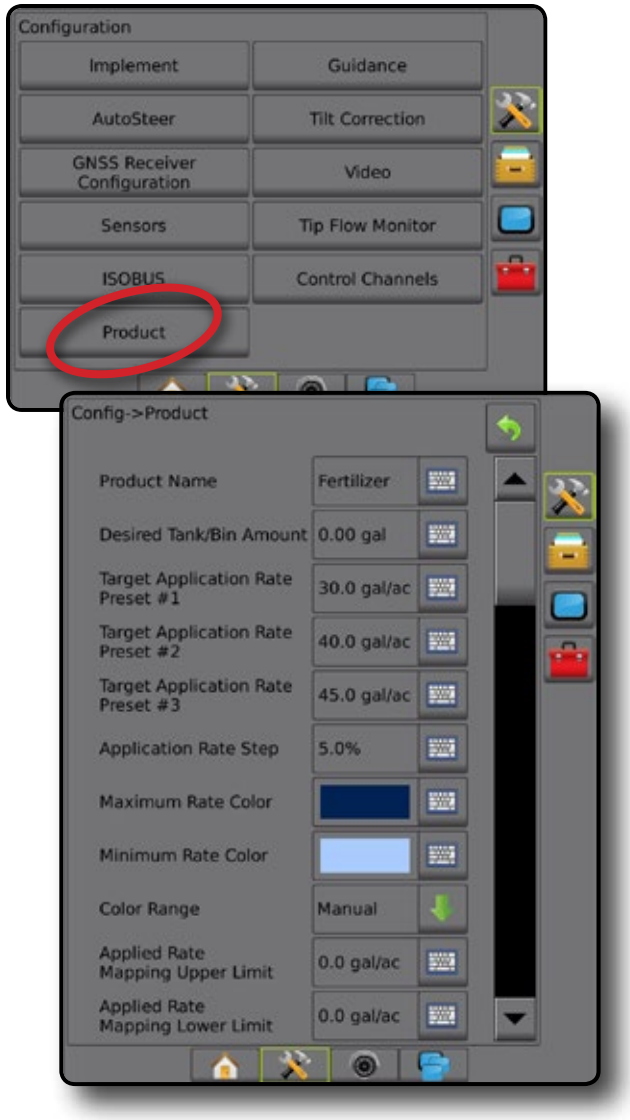
When a rate control system (DCM or ISOBUS) is present, Product options are available for configuring product control channel names, product volumes, application rates, increment for adjusting rates, and maximum/minimum rate limits and corresponding display colors for mapping. Some options are available with the DCM only as with an ISOBUS they are configured thought the UT.

NOTE: For more information, see the Rate Control chapter of this manual.

Dual Control Module (DCM)

1. Press CONFIGURATION side tab .
2. Press **Product**.
3. Select from:
   - ▶ Product Name – used to enter the name of the product for the current Control Channel
   - ▶ Actual Tank/Bin Amount – used to set the current amount of the product in the tank or bin as calculated using a tank or bin sensor
   - ▶ Target Application Rate Preset #1-3 – used to select the target application rate for the current application rate number
   - ▶ Product Density – used to set the density for the product in the tank/bin
   - ▶ Application Rate Step – used to set the increment for increasing or decreasing the product application rate
   - ▶ Maximum/Minimum Rate Color – used to create the color scheme that best represents the change in rates across an application or target rate map
   - ▶ Color Range – used to select Automatic or Manual mode for setting Maximum and Minimum Rate Color
   - ▶ Applied Rate Mapping Upper Limit [Manual Color Range only] – used to set the maximum rate for which the Maximum Rate Color will used (higher rates will use the selected Maximum Rate Color)
   - ▶ Applied Rate Mapping Lower Limit [Manual Color Range only] – used to set the minimum rate for which the Minimum Rate Color will used (lower rates will use the selected Minimum Rate Color)

Figure 4-33: Product Options – DCM



ISOBUS

1. Press CONFIGURATION side tab.
2. Press **Product**.
3. Select from:
   - ▶ Product Name – used to enter the name of the product for the current Control Channel
   - ▶ Maximum/Minimum Rate Color – used to create the color scheme that best represents the change in rates across an application or target rate map
   - ▶ Color Range – used to select Automatic or Manual mode for setting Maximum and Minimum Rate Color
   - ▶ Applied Rate Mapping Upper Limit [Manual Color Range only] – used to set the maximum rate for which the Maximum Rate Color will used (higher rates will use the selected Maximum Rate Color)
   - ▶ Applied Rate Mapping Lower Limit [Manual Color Range only] – used to set the minimum rate for which the Minimum Rate Color will used (lower rates will use the selected Minimum Rate Color)

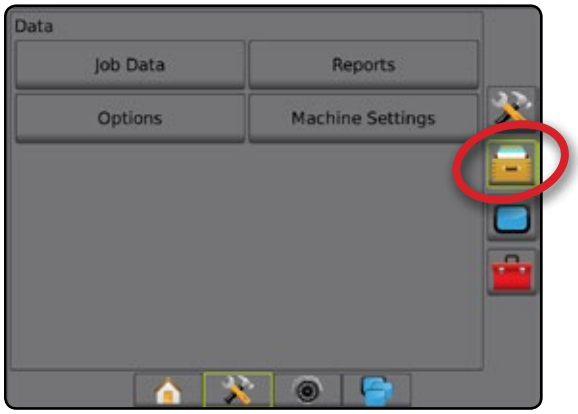
Figure 4-34: Product Options – ISOBUS

DATA MANAGEMENT

Data Management allows for transfer and management of job data, reporting of job data, changing of job mode, and transfer and management of machine settings.

1. Press SYSTEM SETUP bottom tab.
2. Press DATA MANAGEMENT side tab.
3. Select from:
   - ▶ Job Data – in advanced job mode, used to transfer job information (delete, import, export) and manage job information (create a new job, delete a job, or copy a job's Guidelines, Boundaries, Applied Data, and/or Prescription Map to a new job)
   - ▶ Reports – used to create job reports and save them to a USB drive
   - ▶ Options – used to select simple job mode or advanced job mode
   - ▶ Machine Settings – used to transfer machine settings (delete, import, export) and manage machine setting (create a new machine setting, copy a machine setting, delete a machine setting, save the current machine setting to the selected file, or load the selected file's machine setting)

Figure 4-35: Data Management Options



Job Data

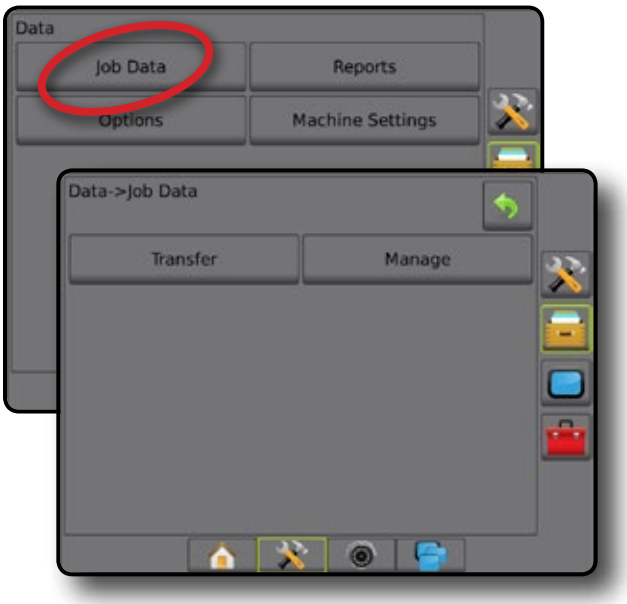
When in advanced job mode, job data options are used to transfer job information (delete, import, export) and manage job information (create a new job, delete a job, or copy a job's Guidelines, Boundaries, Applied Data, and/or Prescription Map to a new job).

Job Data includes:

- Job name
- Client, Farm, and Field names
- Boundary
- Coverage Area
- Guidelines
- Maps (Coverage, Prescription, Application, Preset Target Rate)
- Tip Faults

1. Press DATA MANAGEMENT side tab.
2. Press **Job Data**.
3. Select from:
   - ▶ Transfer – when in advanced job mode, allows the transfer of selected jobs to or from a USB drive, as well as deleting jobs
   - ▶ Manage – when in advanced job mode, allows the creation of a new empty job, copying of a selected job's Guidelines, Boundaries, Applied Data, and/or Prescription Map to a new job, as well as deleting a selected job
4. Press RETURN arrow or DATA MANAGEMENT side tab to return to the main Data Management screen.

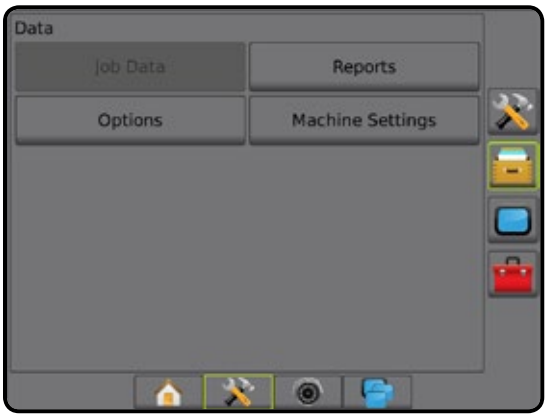
Figure 4-36: Job Data Options



Job Data Unavailable

When in simple job mode, job data options will not be available.

Figure 4-37: Job Data Unavailable



Transfer

When in advanced job mode, the job data transfer screen allows the transfer of selected jobs to or from a USB drive, as well as deleting jobs.

Jobs transferred to a USB storage device can be opened and updated using Fieldware Link. In Fieldware Link a user can input client, farm and field data as well as copy/edit jobs for reuse of boundaries and guidelines. From Fieldware Link, jobs can be ported back to a USB storage device to be moved back onto the console internal storage for use.

NOTE: When a job is active/started, Transfer options are not available for selection. Stop the current job to enable the function.

Jobs transferred to a storage device are removed from the console and are no longer available for use.

1. Press DATA MANAGEMENT side tab.
2. Press **Job Data**.
3. Press **Transfer**.
4. Select from:
   - ▶ Move Job Data to USB Storage – used to move job data from internal storage to USB storage
   - ▶ Move Job Data to Internal Storage – used to move job data from USB storage to internal storage
   - ▶ Delete Job Data – used to delete job data from internal storage
5. Press RETURN arrow or DATA MANAGEMENT side tab to return to the main Data Management screen.

Figure 4-38: Job Data – Transfer

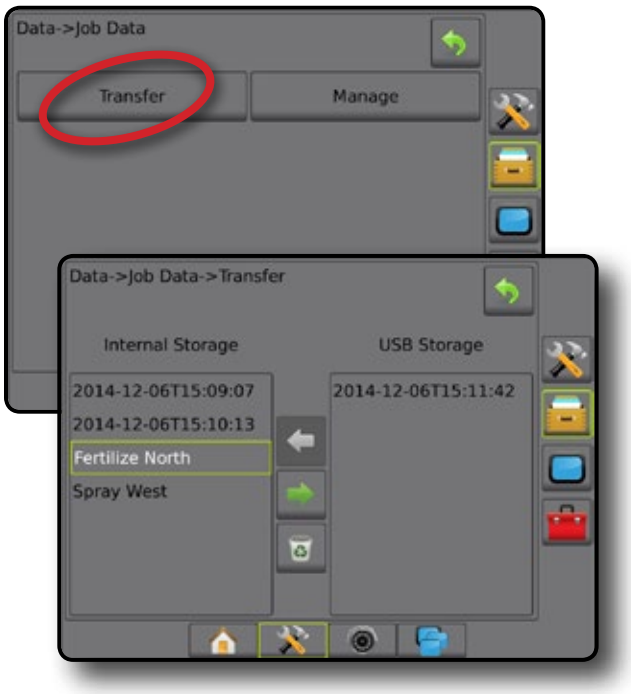
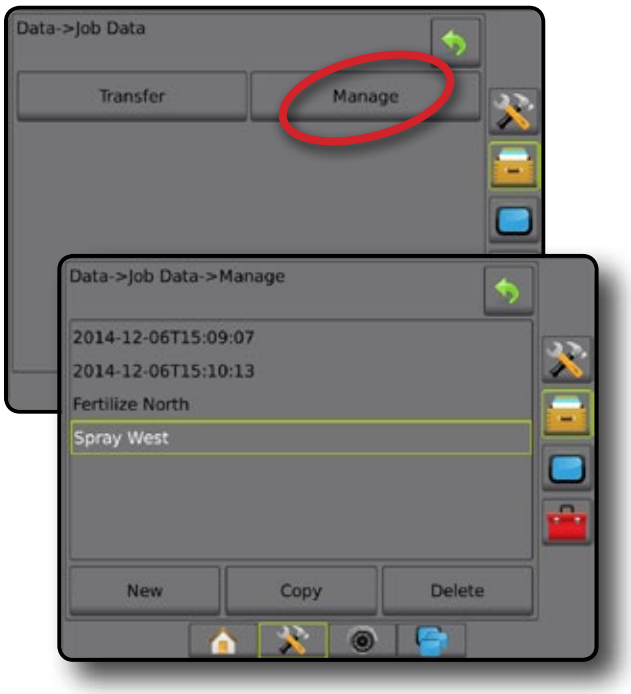


Figure 4-39: Job Data – Manage



Manage

When in advanced job mode, the job data manage screen allows the creation of a new empty job, copying of a selected job's Guidelines, Boundaries, Applied Data, and/or Prescription Map to a new job, as well as deleting a selected job.

NOTE: When a job is active/started, Manage options are not available for selection. Stop the current job to enable the function.

1. Press DATA MANAGEMENT side tab.
2. Press **Job Data**.
3. Press **Manage**.
4. Select from:
   - ▶ New – used to create a new empty job with no associated Guidelines, Boundaries, Applied Data, or Prescription Map
   - ▶ Copy – used to copy the selected job's Guidelines, Boundaries, Applied Data, and/or Prescription Map into a new job
   - ▶ Delete – used to delete job data from internal storage
5. Press RETURN arrow or DATA MANAGEMENT side tab to return to the main Data Management screen.

Reports

Reports is used to create job reports and save them to a USB drive.

NOTE: If Simple Job Mode is selected in the Options page, only the current job can be saved.

When a job is active/started, Reports are not available for selection. Stop the current job to enable the function.

When closing a job with a USB drive in the console, you get the option to create a report on the current job.

1. Press DATA MANAGEMENT side tab.
2. Press **Reports**.
3. Insert a USB drive into the console.
4. Select the job to be saved.
5. Select:
   - ▶ PDF – report for print
   - ▶ KML – Google Earth Map
   - ▶ SHP – ESRI shape data
   - ▶ ALL – all available file types
6. Press RETURN arrow or DATA MANAGEMENT side tab to return to the main Data Management screen.

NOTE: The file icons or buttons are not available for selection (grayed out) until a USB drive is inserted properly.

Figure 4-40: Reports – Advanced Job Mode

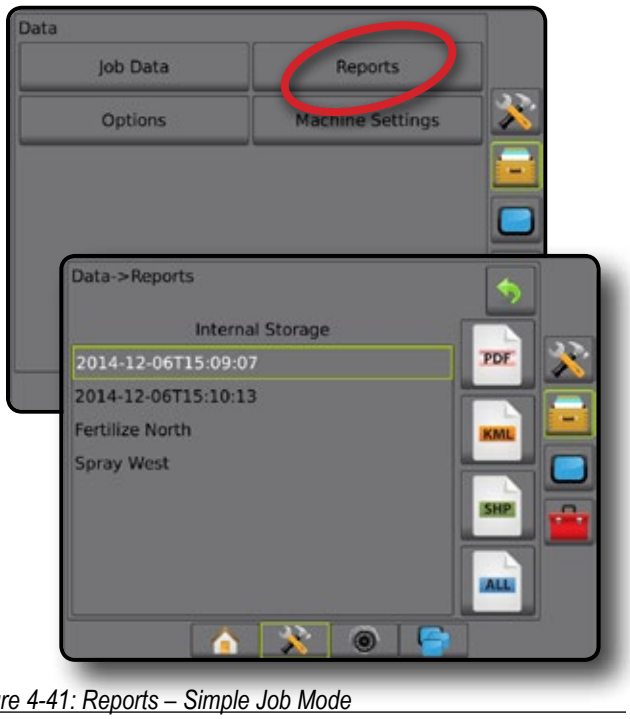


Figure 4-41: Reports – Simple Job Mode

Options (Job Mode)

Options allows the operator to select between Simple or Advanced Job Mode.

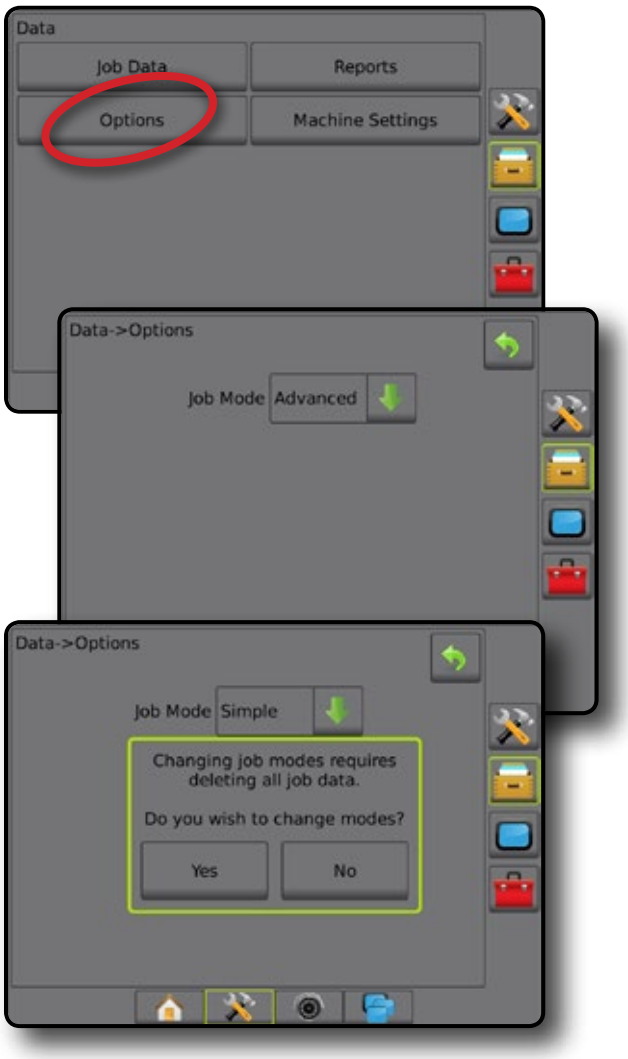
NOTE: When a job is active/started, changing the job mode is not available. Stop the current job to enable the function.

WARNING! Changing job modes deletes all internal job data.

1. Press DATA MANAGEMENT side tab .
2. Press **Options**.
3. Press DOWN arrow to access the list of options.
4. Select:
   - ▶ Simple – only bounded area and coverage areas are displayed on the home screen. Only the current job is available for saving in Reports. Use with Fieldware Link is not available.
   - ▶ Advanced – more than one job will be available at any time. Client, farm, field and job names; bounded and coverage areas; application time; and distance from selected job are displayed on the home screen. All saved job profiles can be exported as a PDF, SHP or KML file to a USB drive using Data -> Reports.
     - ● Client information, farm information, field information, and prescription maps can only be inputted using Fieldware Link. A job name can only be edited using Fieldware Link.
     - ● A user can duplicate jobs for reuse of boundaries, guidelines, coverage data and prescription maps using Fieldware Link or Data -> Job Data -> Manage in the console.
5. "Changing job modes requires deleting all job data. Do you wish to change modes?"

   Press:
   - ▶ Yes – to make the change
   - ▶ No – to keep the current setting
6. Press RETURN arrow or DATA MANAGEMENT side tab to return to the main Data Management screen.

Figure 4-42: Options – Change Job Mode



Machine Settings

Machine Settings is used to transfer profiles for machine settings (delete, import, export) and manage profiles for machine settings (create a new profile, copy or delete a profile, save the current profile to the selected profile, or load the selected profile's machine settings).

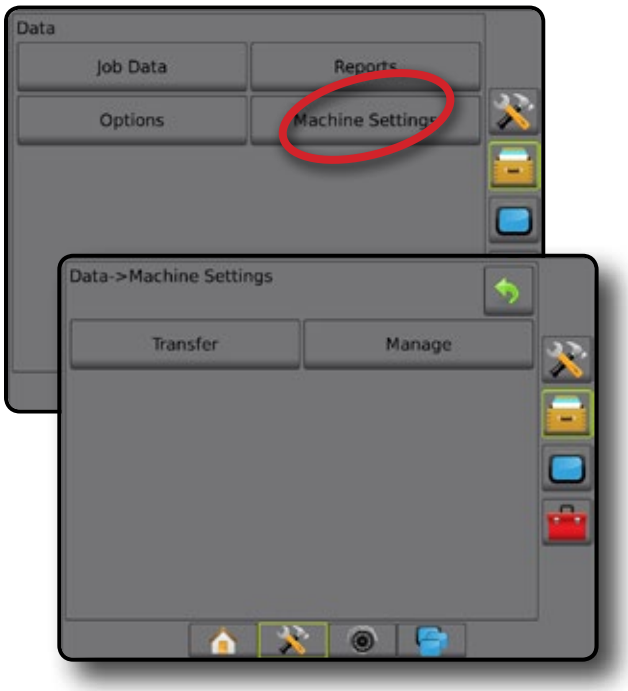
Machine Settings include:

- Implement settings
- AutoSteer/Tilt Correction settings
- Rate Control settings
- Job-specific settings (including application rates, application type, and Product Channel assignments)

NOTE: Not all settings are saved as part of the machine settings. See the appendix "Aeros Console Menu Settings" for details.

1. Press DATA MANAGEMENT side tab.
2. Press **Machine Settings**.
3. Select from:
   - ► Transfer – allows the transfer of selected machine settings to or from a USB drive, as well as deleting machine settings
   - ► Manage – allows the creation of a new empty machine settings, the copying of a selected machine settings to a new machine settings, the deletion of a selected machine settings, the saving of the current machine settings to the selected machine settings, or the loading of the selected machine settings to the current settings
4. Press RETURN arrow or DATA MANAGEMENT side tab to return to the main Data Management screen.

Figure 4-43: Machine Settings



Transfer

The machine settings transfer screen allows the transfer of selected machine settings to or from a USB drive, as well as deleting machine settings.

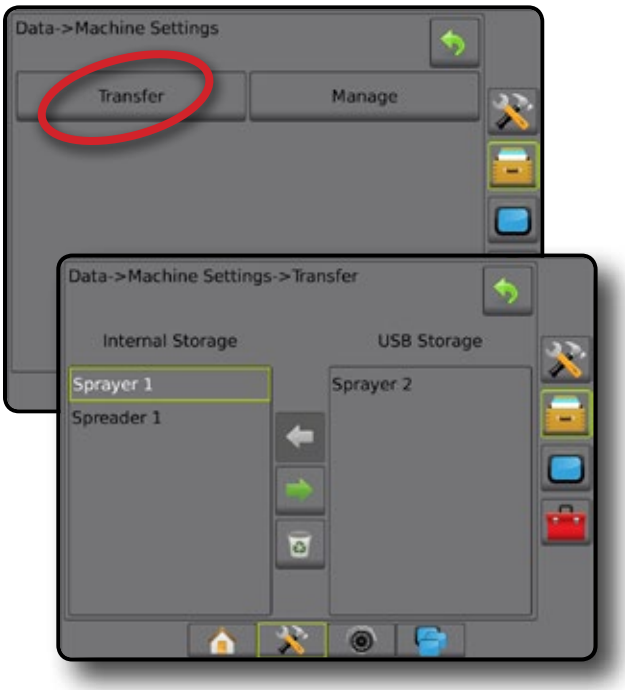
Machine settings transferred to a USB storage device can be opened and updated using Fieldware Link. From Fieldware Link, machine settings can be ported back to a USB storage device to be moved back onto the console internal storage for use.

NOTE: Not all settings saved as part of the machine settings are available to be edited in Fieldware Link. See the setting availability chart for details.

Machine settings transferred to a storage device are removed from the console and are no longer available for use.

1. Press DATA MANAGEMENT side tab .
2. Press **Machine Settings**.
3. Press **Transfer**.
4. Select from:
   - ▶ Move Machine Settings to USB Storage – used to move machine settings from internal storage to USB
   - ▶ Move Machine Settings to Internal Storage – used to move machine settings from USB to internal storage
   - ▶ Delete Machine Settings – used to delete machine settings from internal storage or USB storage
5. Press RETURN arrow or DATA MANAGEMENT side tab to return to the main Data Management screen.

Figure 4-44: Machine Settings – Transfer



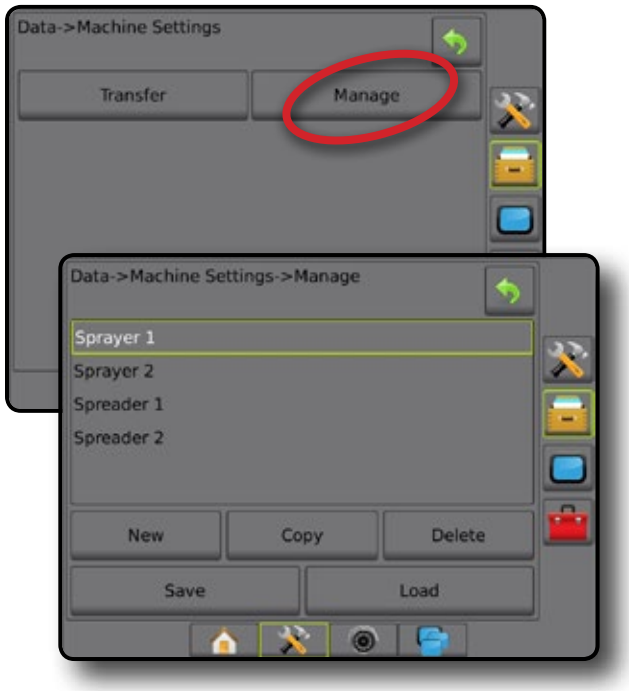
Manage

The Machine Settings Manage screen allows the creation of a new empty machine settings, the copying of a selected machine settings to a new machine settings, the deletion of a selected machine settings, the saving of the current machine settings to the selected machine settings, or the loading of the selected machine settings to the current settings.

NOTE: Not all settings are saved as part of the machine settings. See the appendix "Aeros Console Menu Settings" for details.

1. Press DATA MANAGEMENT side tab .
2. Press **Machine Settings**.
3. Press **Manage**.
4. Select from:
   - ▶ New – used to create a new machine setting with no associated implement information
   - ▶ Copy – used to copy a selected machine settings into a new machine settings
   - ▶ Delete – used to delete a selected machine settings from internal storage
   - ▶ Save – used to save the current machine settings to the selected machine settings
   - ▶ Load – used to load the selected machine settings to the current settings
5. Press RETURN arrow or DATA MANAGEMENT side tab to return to the main Data Management screen.

Figure 4-45: Machine Settings – Manage

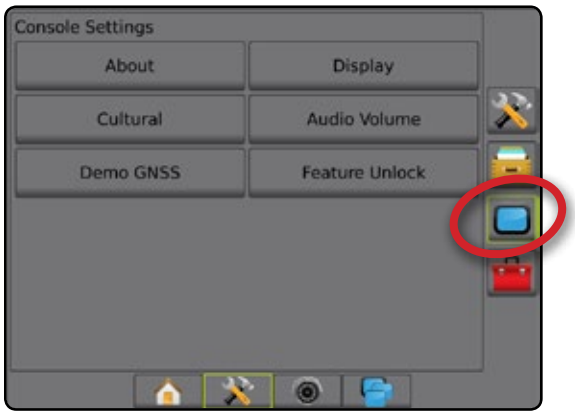


CONSOLE

Console Setup is used to configure the display and cultural settings, unlock advanced features, connect to wireless network, and play back demo GNSS data. Information about other devices attached to the system can be found in the About section.

1. Press SYSTEM SETUP bottom tab .
2. Press CONSOLE side tab .
3. Select from:
   - ▶ About – used to display the system software version as well as the software versions of modules connected to the CAN bus
   - ▶ Display – used to configure color scheme and LCD brightness, establish screenshot availability, and calibrate the touchscreen
   - ▶ Cultural – used to configure units, language, and time zone settings
   - ▶ Audio Volume – used to adjust the volume level of the audio speaker
   - ▶ Demo GNSS – used to start playback of simulated GNSS data
   - ▶ Feature Unlock – used to unlock advanced features

Figure 4-46: Console Options



About

About/Save screen displays the system software version as well as the software versions of modules connected to the CAN bus.

To aid when troubleshooting problems in the field, an end user can use the Save button to download a text file containing current software information to a USB drive, then e-mail the file to support personnel.

1. Press CONSOLE side tab .
2. Press **About**.
3. Select from:
   - ▶ View Information including Unit Serial Number, Software Version, and Connected Modules
   - ▶ With a USB drive in the console, press **Save** to save the About information to the USB drive. Saved version information to USB drive will confirm the save.
4. Press RETURN arrow or CONSOLE side tab to return to the main Console Settings screen.

NOTE: The **Save** *option is not available for selection (grayed out) until a USB drive is inserted properly.*

Figure 4-47: About Options

Display

Display is used to configure color scheme and LCD brightness, establish screenshot availability and calibrate the touchscreen.

1. Press CONSOLE side tab .
2. Press **Display**.
3. Select from:
   - ▶ Color Scheme – used to choose the color scheme that is easiest to read
   - ▶ LCD Brightness – used to adjust the brightness of the console display
   - ▶ Screenshot – used to allow screen captures to be saved to a USB drive
   - ▶ Screen Calibration – used to calibrate the touch screen
4. Press RETURN arrow or CONSOLE side tab to return to the main Console Settings screen.

Figure 4-48: Display Options

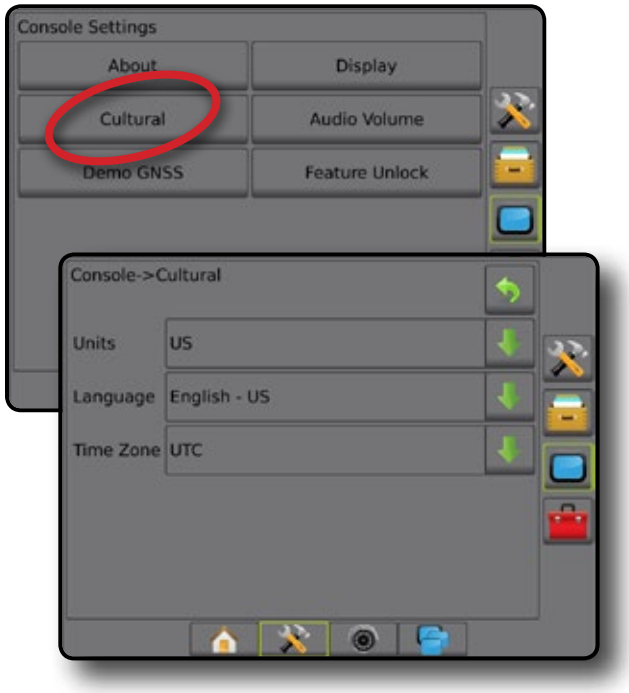
Cultural

Cultural is used to configure units, language, and time zone settings for the Aeros console and any Electronic Control Units (ECUs) in the system.

NOTE: The languages available in a particular ECU may vary.

1. Press CONSOLE side tab .
2. Press **Cultural**.
3. Select from:
   - ▶ Units – used to define the system units
   - ▶ Language – used to define the system language
   - ▶ Time Zone – used to establish the local time zone
4. Press RETURN arrow or CONSOLE side tab to return to the main Console Settings screen.

Figure 4-49: Cultural Options

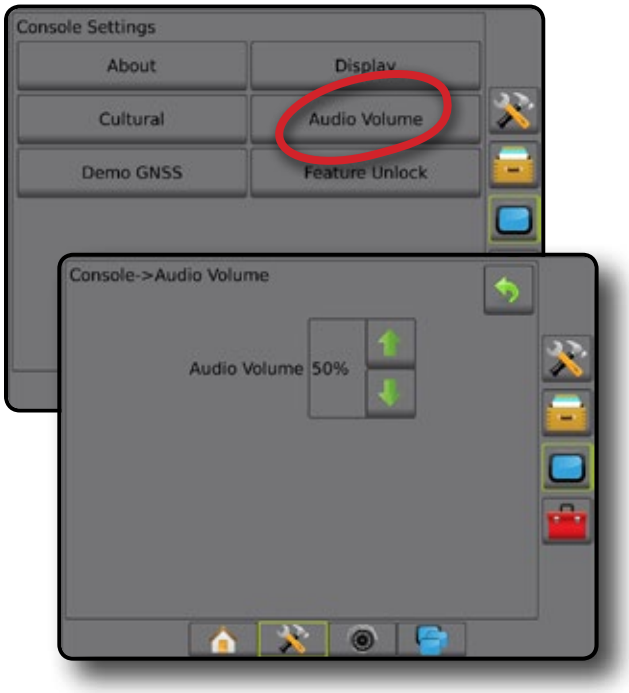


Audio Volume

Audio Volume adjusts the volume level of the audio speaker.

1. Press CONSOLE side tab.
2. Press **Audio Volume**.
3. Press:
   - ▶ UP arrow to increase the sound
   - ▶ DOWN arrow to soften the sound
4. Press RETURN arrow or CONSOLE side tab to return to the main Console Settings screen.

Figure 4-50: Audio Volume Options



Demo GNSS

Demo GNSS is used to start the playback of a simulated GNSS signal.

WARNING! This tool will disable incoming GNSS positions and begin playing back simulated data. A console reboot is necessary in order to restore real GNSS.

1. Press CONSOLE side tab.
2. Press **Demo GNSS**.
3. Press **Start**.
4. Press RETURN arrow or CONSOLE side tab to return to the main Console Settings screen.

NOTE: A console reboot is necessary in order to restore a real GNSS.

Figure 4-51: Demo GNSS

Restart Demo GNSS

Demonstration GNSS can be restarted.

1. Press CONSOLE side tab .
2. Press **Demo GNSS**.
3. Press **Restart**.
4. Press RETURN arrow or CONSOLE side tab to return to the main Console Settings screen.

Figure 4-52: Restart Demo GNSS

Console->Demo GNSS
Demo GNSS
Restart
Demonstration GNSS has been activated.
Reboot the console to reactivate real GNSS, or
press the Restart button to restart the
playback of simulated GNSS.

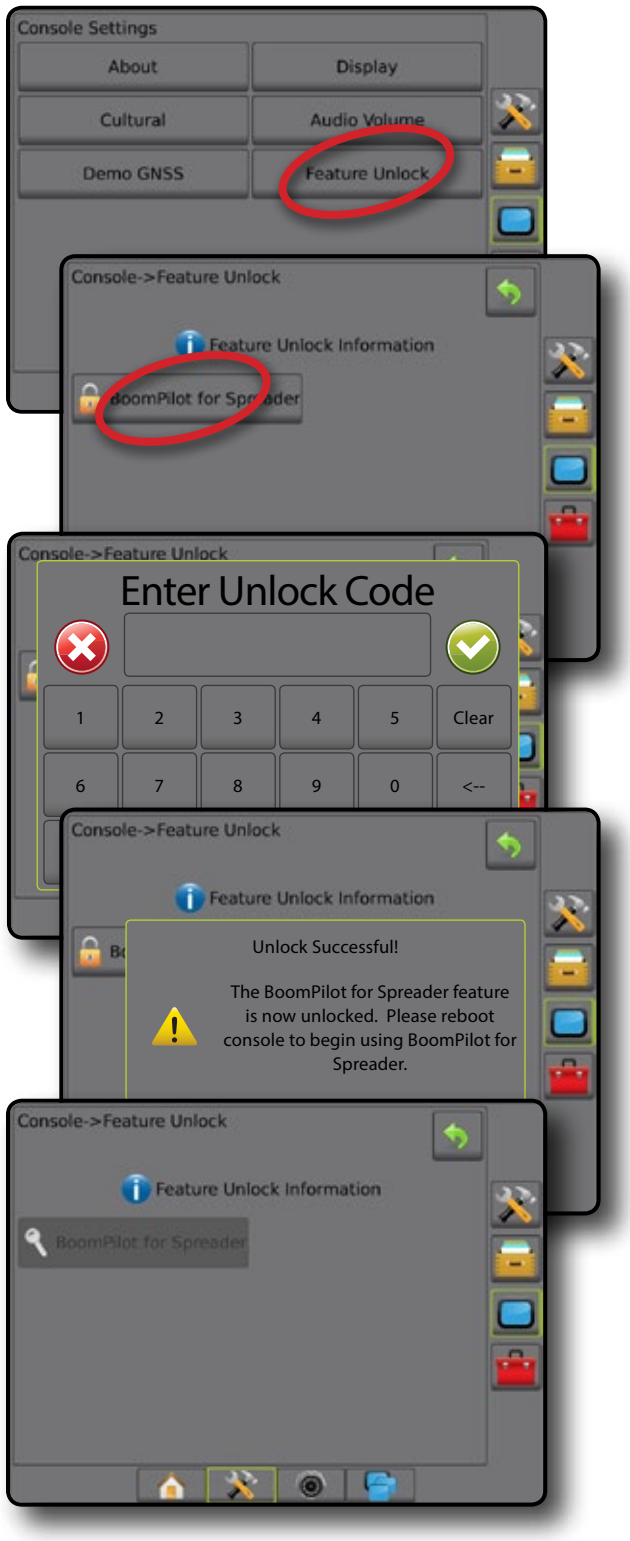
Feature Unlock

Feature Unlock is used to unlock advanced features.

NOTE: The unlock code is unique for each console. Contact TeeJet Technologies Customer Service. Once unlocked, a feature remains unlocked unless the console is fully reset.

1. Press CONSOLE side tab .
2. Press **Feature Unlock**.
3. Press the locked feature button for the locked feature:
   - ▶ BoomPilot for Spreader – allows for spreader application options when used with a compatible spreader implement
4. Enter unlock code.
5. Restart the console.

Figure 4-53: Feature Unlocked

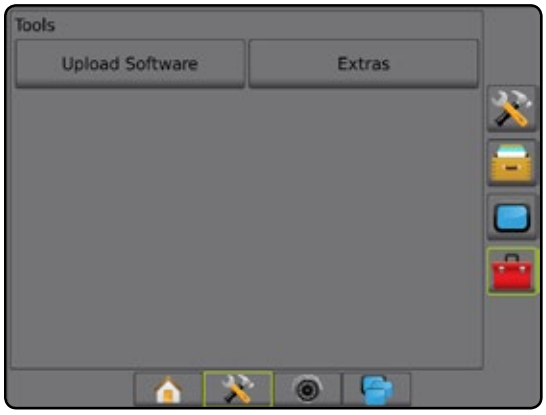


TOOLS

Tools is used to upload software updates for system devices, and to do various calculations on a regular calculator or a unit converter.

1. Press SYSTEM SETUP bottom tab .
2. Press TOOLS side tab .
3. Select from:
   - ► Upload Software – used to upload software updates from a USB drive for system devices.
   - ► Extras – accesses Calculator and Units Converter

Figure 4-54: Tools Options



Upload Software

The Upload Software screen is used to upload software updates from a USB drive for system devices.

1. Press TOOLS side tab .
2. Press **Upload Software**.
3. Insert the USB drive containing software updates into the console.
4. Press Device DOWN arrow and select the device for which software will be updated:
5. Press Software DOWN arrow and select the software update to be uploaded to the device.
6. Press **Begin Upload**.
7. When prompted, press **OK**.
8. Press RETURN arrow to return to the Tools screen, or press CONSOLE side tab to return to the main Console Settings screen.

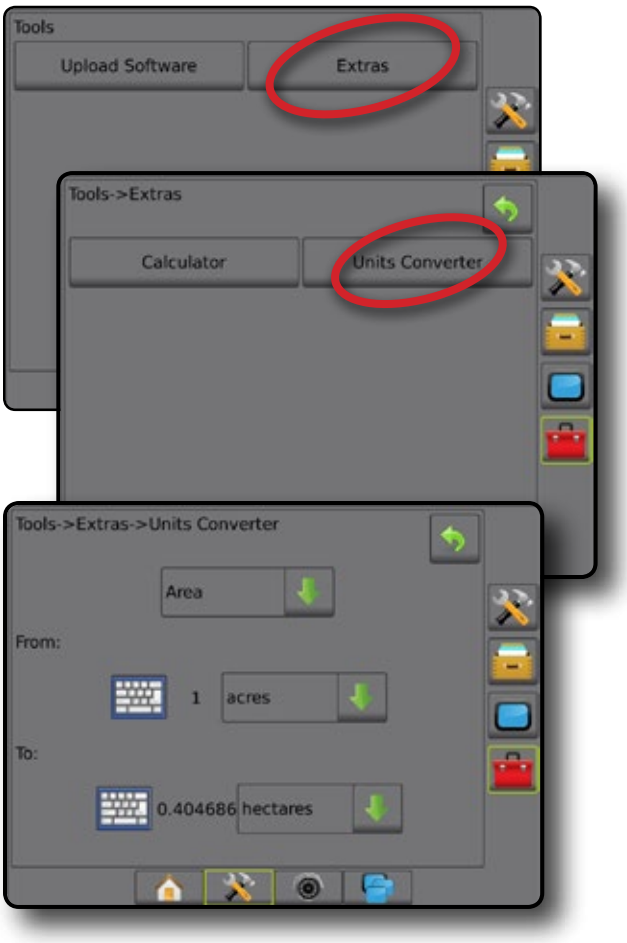
Figure 4-55: Upload Software

Extras

1. Press TOOLS side tab .
2. Press **Extras**.
3. Select from:
   - ► Calculator – used to perform mathematical calculations
   - ► Units Converter – used to perform unit conversions for area, length, volume, pressure, mass, temperature, or angle

Figure 4-56: Calculator

Figure 4-57: Units Converter



CHAPTER 5 – GNSS

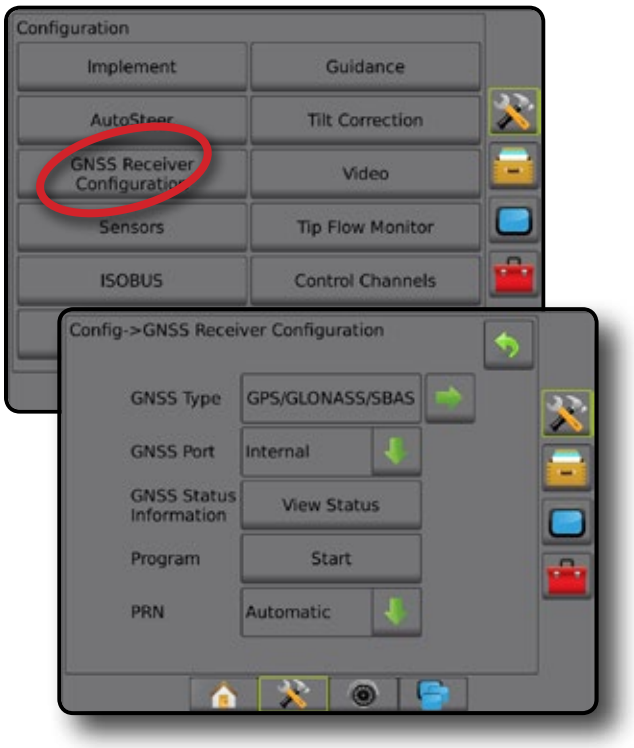
GNSS is used to configure GNSS Type, GNSS Port, and PRN, and other GNSS parameters, and to view GNSS status information.

GNSS

NOTE: These settings are required for rate control, assisted/ auto steering, and tilt sensor operation, as well as proper implement operation.

1. Press CONFIGURATION side tab .
2. Press **GNSS Receiver Configuration**.
3. Select from:
   - ▶ GNSS Type – sets to accept GNSS source transmissions: GPS, GLONASS, or SBAS (with or without DGPS Required).
   - ▶ GNSS Port – sets GNSS communication port: Internal or External
   - ▶ GNSS Status Information – displays current GNSS status information: GGA/VTG (Data Rates), Number of Satellites, HDOP, PRN, GGA Quality, Receiver, Receiver Version, UTM Zone, and correction model
   - ▶ Program – allows direct programming of the GNSS receiver through a command line interface. Only TeeJet support technicians should use this feature. Use at your own risk!
   - ▶ PRN – selects the SBAS PRN that will provide GNSS differential correction data. Set to **Automatic** for automatic PRN selection.
   - ▶ Alternate PRN – when PRN is not automatic, a second alternate SBAS PRN will provide a second set of GNSS differential correction data
4. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 5-1: GNSS Options

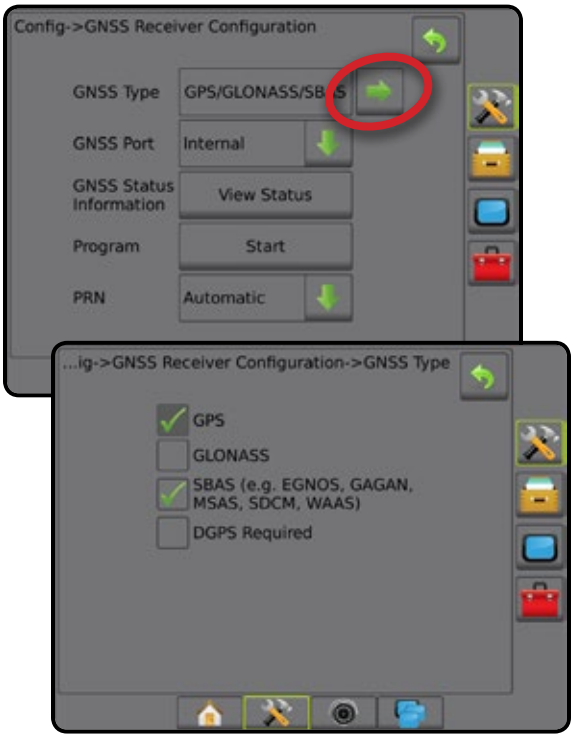


GNSS Type

In addition to GPS signals, GNSS Type can be customized to accept GNSS augmentation signals: differentially corrected SBAS source transmissions, uncorrected GLONASS source transmissions or both. DGPS source transmissions can also be required.

1. Press NEXT PAGE arrow to access the list of options.
2. Select:
   - ▶ GPS – uncorrected signals from the GPS system
     NOTE: GPS is always selected.
   - ▶ GLONASS – adds uncorrected signals from the GLONASS system
   - ▶ SBAS (e.g. EGNOS, GAGAN, MSAS, SDCM, WAAS) – adds differentially corrected signals from the SBAS system
   - ▶ DGPS Required – adds differentially corrected GPS signals (SBAS must also be selected)
     NOTE: The console will not allow guidance in DGPS Required mode without the corrected DGPS signal.
3. Exit this screen to begin initializing the GNSS receiver. This takes about a minute, and the console will not respond until complete.

Figure 5-2: GNSS Type



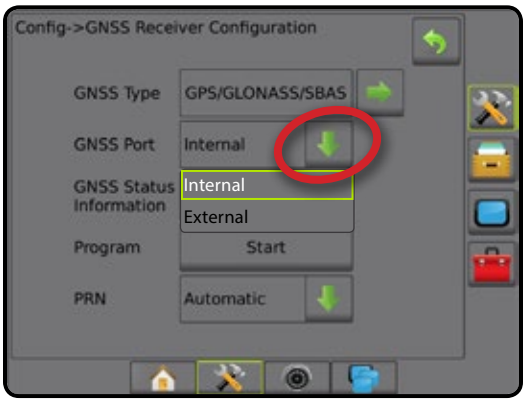
GNSS Port

The COM port can be set to "Internal" to use the internal GNSS receiver and transmit out, or "External" to receive external GNSS data.

1. Press DOWN arrow to access the list of options.
2. Select:
   - ▶ Internal – use the internal GNSS and transmit out
   - ▶ External – receive external GNSS data

NOTE: Working with signals such as OmniSTAR HP/XP or RTK will require GNSS Port to be set to External.

Figure 5-3: GNSS Port



External Receiver Minimum Configuration Requirements

Before the Aeros will connect and work with an external GNSS receiver, these minimum configuration requirements must be met.

Serial Port Settings	
Baud rate:	19,200
Data Bits:	8
Parity:	None
Stop Bits:	1

Serial Port connection requirements

Male 9-pin RS-232 serial cable

NOTE: May require Null modem adapter depending on pin-out of receiver.

NMEA Strings	
GGA	5 Hz
Optional VTG	5 Hz, 2 Hz, Off
ZDA	0.2 Hz

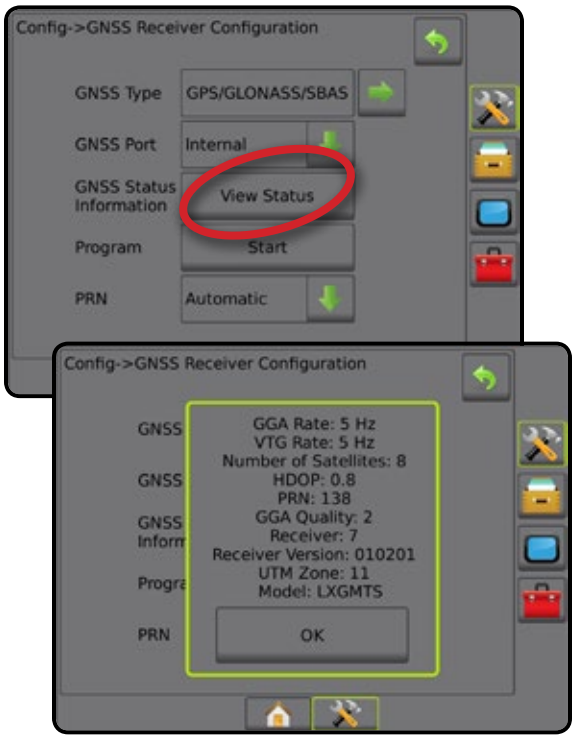
GNSS Status Information

GNSS Status Information displays a snapshot of the current GNSS status information.

1. Press **View Status**.
2. View data including:
   - ◀GGA/VTG Data Rates – the number of GNSS positions per second.
   - ◀Number of Satellites – the number of GNSS satellites in view (minimum of 4 are required for DGPS)
   - ◀HDOP – a measure of satellite geometry strength in the horizontal plane. A HDOP value of less than 2 is preferred.
   - ◀PRN – the current DGPS satellite ID
   - ◀GGA Quality – the current quality indicator of the GNSS signal (see GGA Requirements chart)
   - ◀Receiver – the current indicator of the receiver
   - ◀Receiver Version – the software version installed on the receiver
   - ◀UTM Zone – zone where currently located (see "UTM Coordinates and Zones" in this manual)
   - ◀Model – the correction models available to be used with the current receiver configuration
3. Press **OK** to return to the GNSS Receiver Configuration screen.

NOTE: If GNSS is not available, all entries will be "Invalid".

Figure 5-4: GNSS Status Information

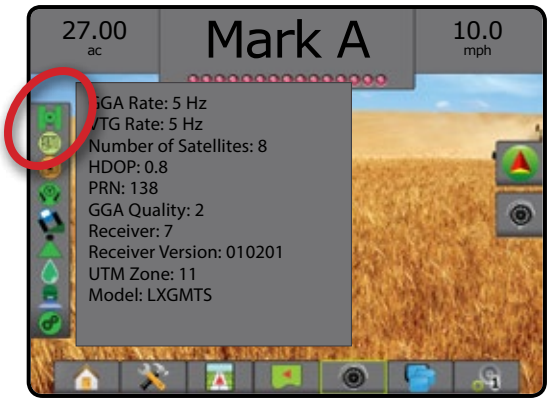


GNSS Status Information on Guidance Screens

GNSS Status displays information regarding current GNSS status, including data rates, number of satellites in view, HDOP and PRN status, receiver and version, satellite quality and ID, and UTM zone.

1. Press GNSS STATUS icon :

Figure 5-5: Guidance Screen GNSS Status Information



GGA Requirements

GGA Quality required to be able to work with various types of signal can vary. See table below for requirements.

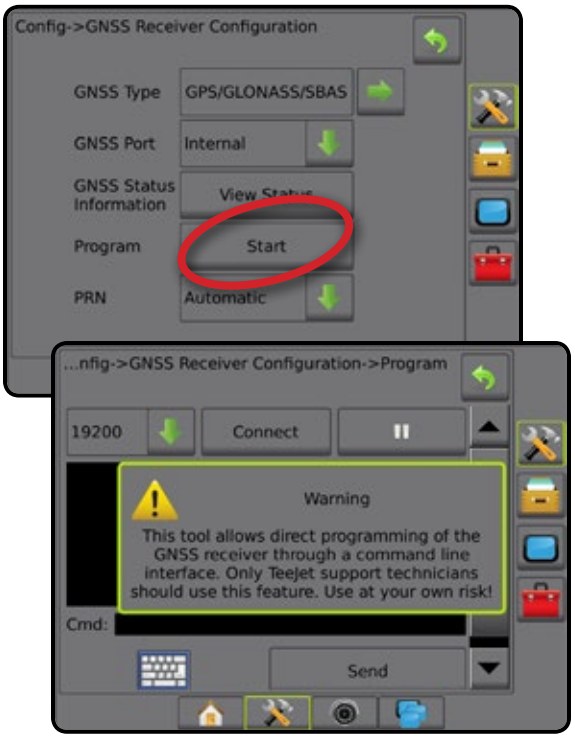
Service	Indicator	Accuracy
GPS only	1	<3 m
WAAS/EGNOS/Beacon	2	<1 m
RTK	4	4 cm
OmniSTAR HP/XP	5	10 cm
Glide/ClearPath	9	<1 m

Program

Program allows direct programming of the GNSS receiver through a command line interface. Only TeeJet support technicians should use this feature. Use at your own risk!

1. Press **Start**.
2. Adjust programming as required.

Figure 5-6: Programming Receiver

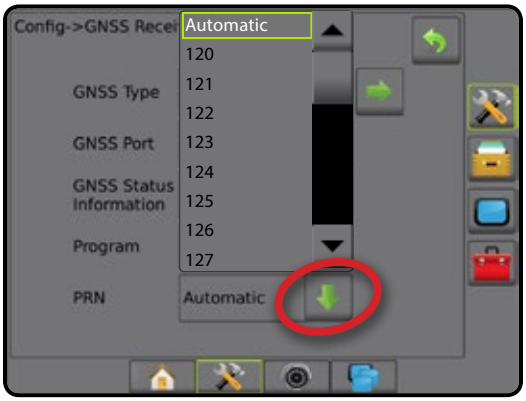


PRN

PRN selects the SBAS PRN that will provide GNSS differential correction data.

1. Press DOWN arrow to access the list of options.
2. Select:
   - ► Automatic – automatic PRN selection
   - ► Number – contact your local dealer for the number associated with your operating location

Figure 5-7: PRN

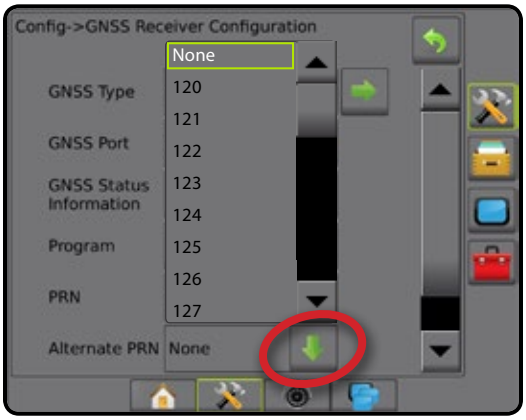


Alternate PRN

When PRN is not automatic, a second alternate SBAS PRN will provide a second set of GNSS differential correction data.

1. Press DOWN arrow to access the list of options.
2. Select:
   - ► None – no alternate PRN number
   - ► Number – contact your local dealer for the number associated with your operating location

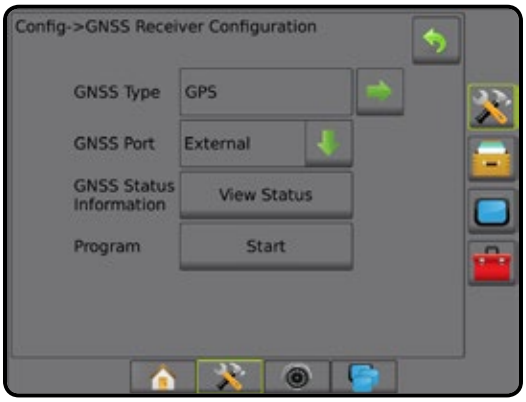
Figure 5-8: Alternate PRN



PRN Not Shown

PRN options are only available with SBAS GNSS Type selected.

Figure 5-9: PRN Not Shown



GNSS Glossary

Commercial Satellite Provider:
Another common source for DGPS signals. Error correction information obtained from their base stations is sent to a communications satellite (separate from the GPS satellites) and broadcast to the user. These satellite-based corrections tend to have more widespread coverage than tower-based broadcasts (FM links), and system accuracy is not greatly affected by the user's distance from the base station receivers. Most of these service providers require a subscription fee for use. A commonly known provider is OmniSTAR®.

CORS (Continuously Operating Reference Station)/ Network RTK:
A series of base stations spread across a given geographic region (such as an entire state/county) that are networked via a centralized computer and which broadcast RTK correction data over the Internet. CORS networks may be publicly or privately owned/operated and may offer a free signal or require an annual subscription fee. By accessing a CORS network via a cellular connection, the end-user eliminates the need to own a base station.

Differential GPS (DGPS):
The most common way to correct for normally occurring GPS errors. Examples of DGPS include WAAS, EGNOS, OmniSTAR® and RTK.

EGNOS (European Geostationary Navigation Overlay Service):
A satellite based augmentation system (SBAS) developed jointly by the European Space Agency (ESA), European Community and EUROCONTROL. The system is free to use and provides differential correction coverage primarily across the European continent. EGNOS delivers pass-to-pass accuracies of 6-10 in/15-25 cm and year-to-year accuracies of +/-3 ft/1 m.

GLONASS (Global Navigation Satellite System):
A global satellite navigation system developed and operated by the Russian government. It is composed of approximately 24 satellites which continuously orbit the earth. While early GNSS receivers typically utilized only GPS signals, many of today's GNSS receivers can utilize signals from both GPS and GLONASS, effectively increasing the total number of satellites available for use.

GPS (Global Positioning System):
The name of the satellite-navigation network maintained by the U.S. Department of Defense. It is composed of approximately 30 satellites which continuously orbit the earth. The term is also used to refer to any device that depends on navigation satellites for functionality.

NTRIP (Networked Transportation of RTCM via Internet Protocol):
An internet-based application that makes the RTCM correction data from the CORS stations available to anyone with an internet connection and the appropriate log-on credentials to the NTRIP server. Typically uses a cellular link to get to the internet and the NTRIP server.

GPS Drift:
Positional shift that can be caused by changes in satellite constellation, operating near trees or other obstacles and satellite clock errors. RTK correction is recommended for field applications where the effects of GPS drift need to be minimized.

GNSS (Global Navigation Satellite System):
A general term that refers to a multiple satellite navigation system used by a receiver to compute its position. Examples of these systems include: GPS developed by the United States and GLONASS by Russia. Additional systems in development include Galileo by the European Union and Compass by China. New generation GNSS receivers are being designed to utilize multiple GNSS signals (such as GPS and GLONASS). Depending on constellation and desired accuracy levels, system performance may be improved by having access to a greater number of satellites.

RTK (Real Time Kinematic):
Currently the most accurate GPS correction system available that uses a land-based reference station located in relatively close proximity to the GPS receiver. RTK can provide one-inch, also known as centimeter, pass-to-pass accuracy and also provides year-to-year position stability. RTK users can have their own base stations, subscribe to RTK Networks or use CORS.

SBAS (Satellite Based Augmentation System):
A general term that refers to any satellite-based differential correction system. Examples of SBAS include: WAAS in the United States, EGNOS in Europe and MSAS in Japan. Additional SBAS covering other regions of the world will likely be coming online in the future.

WAAS (Wide-Area Augmentation System):
A satellite correction service developed by the Federal Aviation Administration (FAA). It is free to use and provides coverage across the U.S. along with parts of Canada and Mexico. WAAS delivers pass-to-pass accuracies of 6-10 in/15-25 cm; however, year-to-year accuracy will be in the range of +/- 3 ft /1 m.

CHAPTER 6 – IMPLEMENT SETUP

Implement Setup is used to establish the various settings associated with straight mode, spreader mode, and staggered mode.

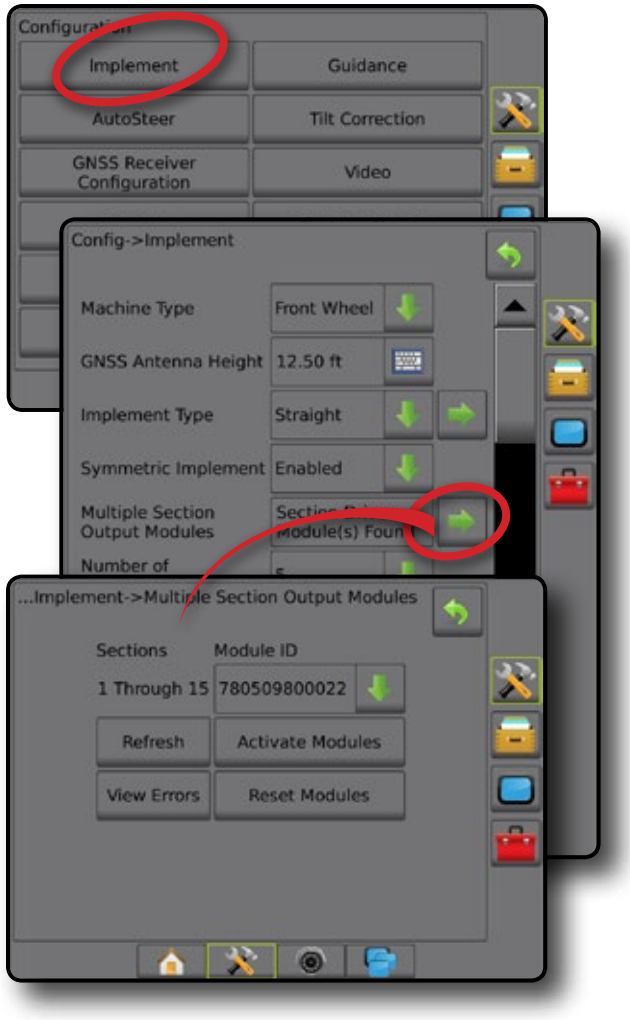
Settings will vary depending on if there is section control available (SmartCable, Section Driver Module (SDM), or Switch Function Module (SFM) or ISOBUS) or if there is a rate controller on the system (TeeJet Dual Control Module (DCM) or ISOBUS).

Multiple Section Output Modules

Multiple section output modules may be installed on the CAN bus to allow more sections than a single module allows. If a section control module is on the system, the settings for Multiple Section Output Modules should be set up first.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Press Multiple Section Output Modules NEXT PAGE arrow.
4. Press **Refresh**.
5. Press DOWN arrow and assign the correct Module ID to the sections.
6. Press **Activate Modules**.
7. Press RETURN arrow to return to the Implement screen or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-1: Setup options for Multiple Section Output Modules



IMPLEMENT TYPE

Implement Type selects the type of application pattern that most closely represents your system.

- In Straight Mode – the boom sections have no length and are on a line a fixed distance from the antenna
- In Spreader Mode – a virtual line is created in line with the delivery disks from which the application section or sections can vary in length and can be at different distances from the line (availability depends on the specific equipment in the system)
- In Staggered Mode – a virtual line is created in line with Section 1 from which the application section or sections have no length and can be at different distances from the antenna (availability depends on the specific equipment in the system)

Figure 6-2: Implement Type – Straight

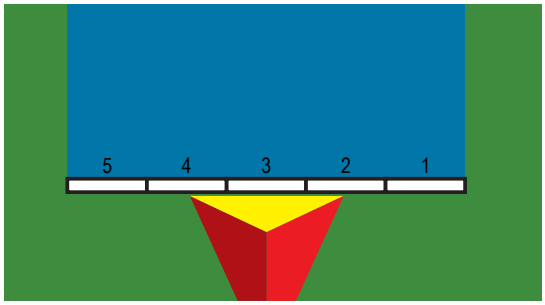


Figure 6-3: Implement Type – Spreader

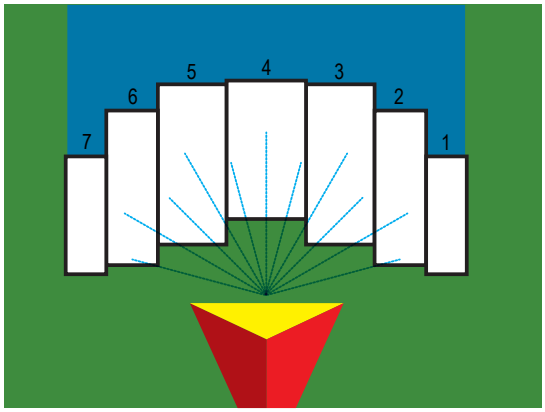
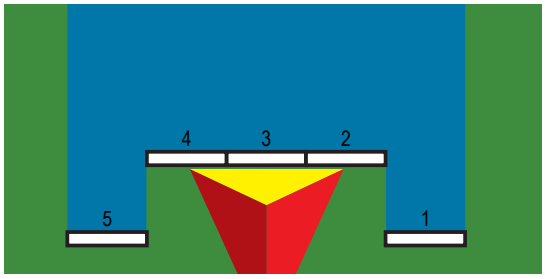


Figure 6-4: Implement Type – Staggered



Section Numbers

Sections are numbered from left to right while facing in the machine's forward direction.

Straight

The boom sections have no length and are on a line a fixed distance from the antenna.

Single Section

No section control is available on the system.

1. Select **Straight** implement type on Implement screen.
2. Press Implement Type NEXT PAGE arrow.
3. Select from:
   - ▶ In-line Implement Offset Direction ❶ – used to select whether the implement is located in front of or behind the GNSS antenna as the vehicle moves in a forward direction
   - ▶ In-line Implement Offset Distance ❶ – used to define the in-line distance from the GNSS antenna to the implement.
   - ▶ Lateral Implement Offset Direction ❷ – used to select the lateral direction from the center line of the machine to the center of the implement while facing in the machine's forward direction
   - ▶ Lateral Implement Offset Distance ❷ – used to define the lateral distance from the center line of the machine to the center of the implement
4. Press RETURN arrow to return to the Implement screen or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-5: Single Section

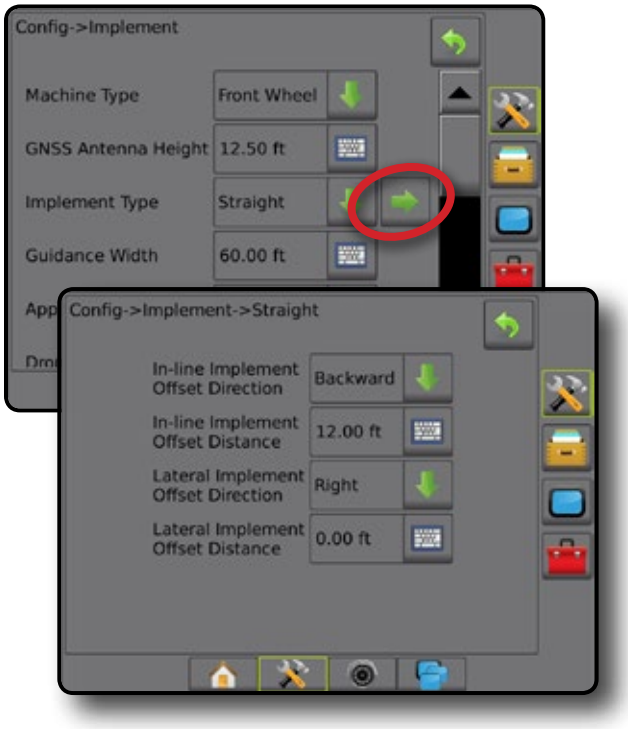
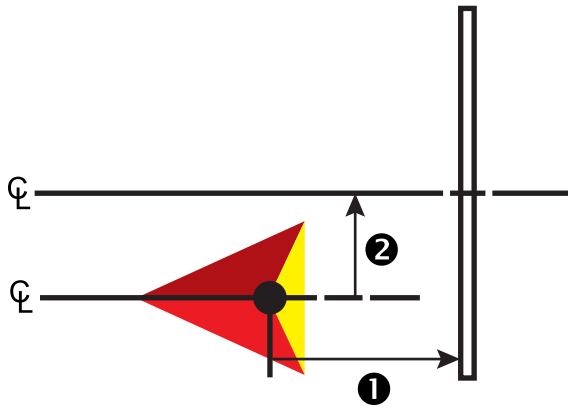


Figure 6-6: Offset Directions and Distances



Multiple Sections

Section control is available (SmartCable, Section Driver Module (SDM), or Switch Function Module (SFM) or ISOBUS).

1. Select **Straight** implement type on Implement screen.
2. Press Implement Type NEXT PAGE arrow.
3. Select from:
   - ▶ In-line Implement Offset Direction ❶ – used to select whether the implement is located in front of or behind the GNSS antenna as the vehicle moves in a forward direction
   - ▶ In-line Implement Offset Distance ❶ – used to define the in-line distance from the GNSS antenna to the implement.
   - ▶ Lateral Implement Offset Direction ❷ – used to select the lateral direction from the center line of the machine to the center of the implement while facing in the machine's forward direction
   - ▶ Lateral Implement Offset Distance ❷ – used to define the lateral distance from the center line of the machine to the center of the implement
   - ▶ Overlap – used to define the amount of overlap allowed when using automatic boom section control
   - ▶ Delay On Time – used to set the time when the section will switch on when entering an area that has not been applied

     NOTE: If the application turns on too soon when entering an unapplied area, decrease the Delay On time. If the application turns on too late, increase the Delay On time.
   - ▶ Delay Off Time – used to set the time when the section will switch off when entering an area that has been applied

     NOTE: If the application turns off too soon when entering an unapplied area, decrease the Delay Off time. If the application turns off too late, increase the Delay Off time.
4. Press RETURN arrow to return to the Implement screen or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-7: Multiple Sections

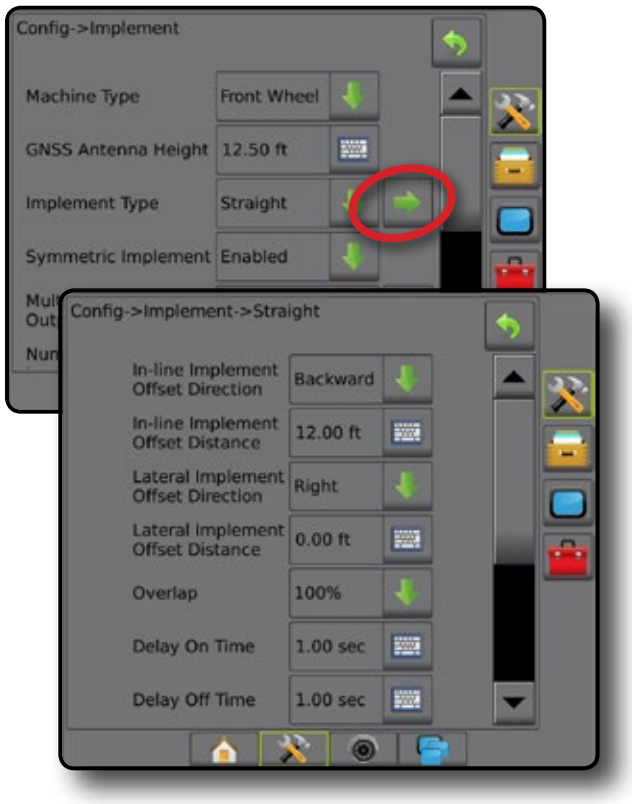


Figure 6-8: Offset Directions and Distances

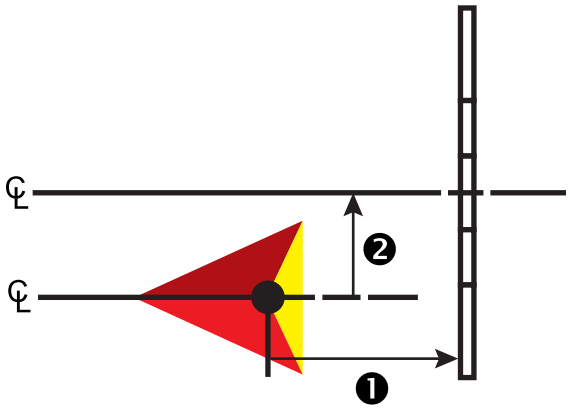
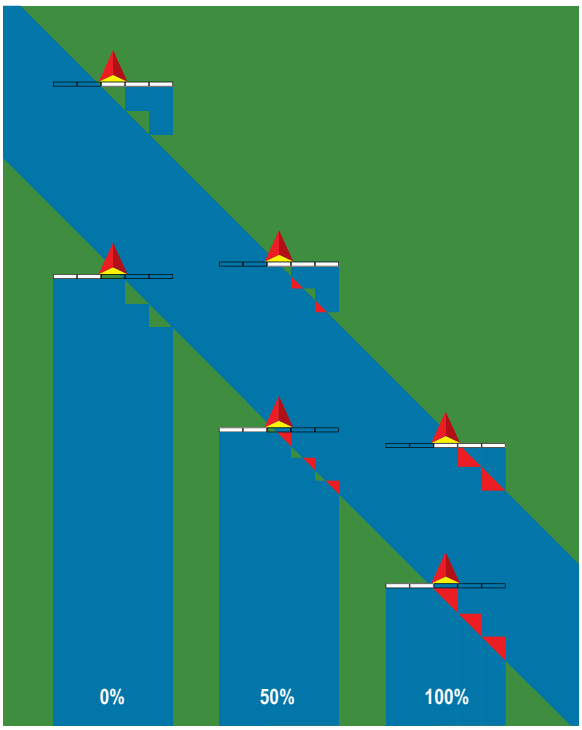


Figure 6-9: Overlap



Spreader – TeeJet

A virtual line is created in line with the delivery disks from which the application section or sections can vary in length and can be at different distances from the line (availability depends on the specific equipment in the system).

Single Section

No section control is available on the system.

1. Select **Spreader** implement type on Implement screen.
2. Press Implement Type NEXT PAGE arrow.
3. Select from:
   - ▶ Setup Type – used to select **TeeJet** spreader type
   - ▶ Antenna to Disks Distance ❶ – used to define the distance from the GNSS antenna to the disks or dispersal mechanism
   - ▶ Lateral Implement Offset Direction ❷ – used to select the lateral direction from the center line of the machine to the center of the implement while facing in the machine's forward direction
   - ▶ Lateral Implement Offset Distance ❷ – used to define the lateral distance from the center line of the machine to the center of the implement
   - ▶ Spread Offset Distance ❸ – used to set the distance between the disks or dispersal mechanism and where product initially hits the ground for the section
   - ▶ Spread Length ❹ – used to set the length of application for the section
4. Press RETURN arrow to return to the Implement screen or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-10: Single Section

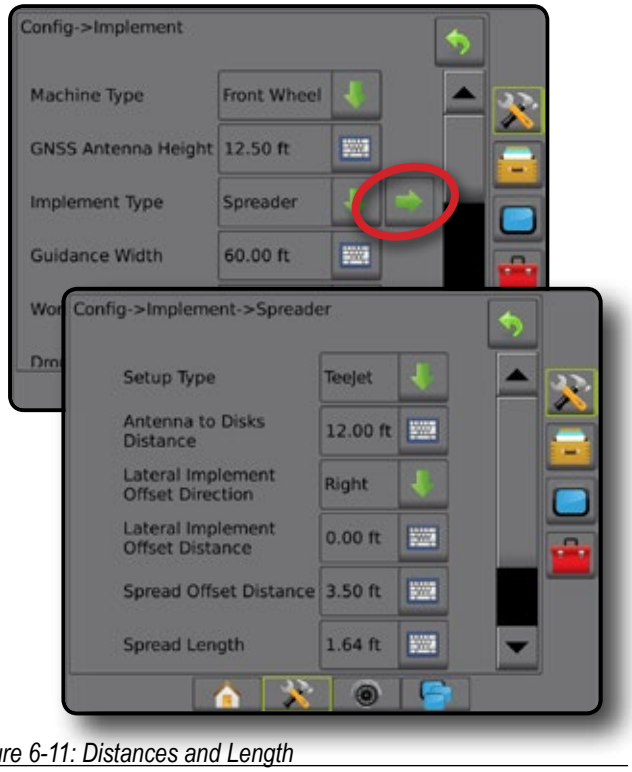


Figure 6-11: Distances and Length

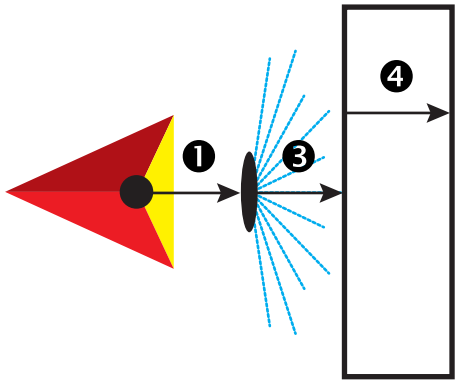
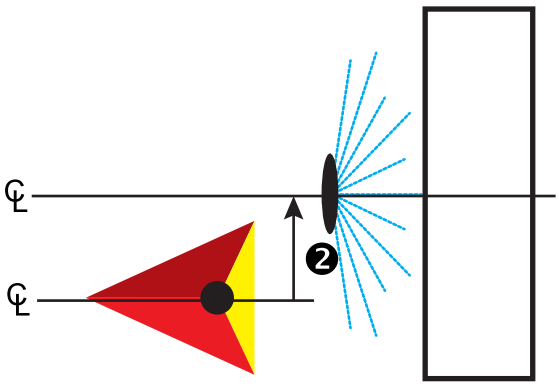


Figure 6-12: Lateral Offset Direction and Distance



Multiple Sections

Section control is available (SmartCable, Section Driver Module (SDM), or Switch Function Module (SFM) or ISOBUS).

1. Select **Spreader** implement type on Implement screen.
2. Press Implement Type NEXT PAGE arrow.
3. Select from:
   - ▶ Setup Type – used to select **TeeJet** spreader type
   - ▶ Antenna to Disks Distance ❶ – used to define the distance from the GNSS antenna to the disks or dispersal mechanism
   - ▶ Lateral Implement Offset Direction ❷ – used to select the lateral direction from the center line of the machine to the center of the implement while facing in the machine's forward direction
   - ▶ Lateral Implement Offset Distance ❷ – used to define the lateral distance from the center line of the machine to the center of the implement
   - ▶ Overlap – used to define the amount of overlap allowed when using automatic boom section control
   - ▶ Delay On Time – used to set the time when the section will switch on when entering an area that has not been applied

     NOTE: If the application turns on too soon when entering an unapplied area, decrease the Delay On time. If the application turns on too late, increase the Delay On time.
   - ▶ Delay Off Time – used to set the time when the section will switch off when entering an area that has been applied

     NOTE: If the application turns off too soon when entering an unapplied area, decrease the Delay Off time. If the application turns off too late, increase the Delay Off time.
   - ▶ Spread Offset Distance ❸ – used to set the distance between the disks or dispersal mechanism and where product initially hits the ground on Section 1.
   - ▶ Section Offsets ❹ – used to set the offset distance from Section 1 (the Spread Offset line) to the leading edge of each section. Section 1 is always 0. All other sections can be different distances.
   - ▶ Section Lengths ❺ – used to set the length of application in each section. Each section can be a different length.

     NOTE: Sections are numbered from left to right while facing in the machine's forward direction.
4. Press RETURN arrow to return to the Implement screen or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-13: Multiple Sections

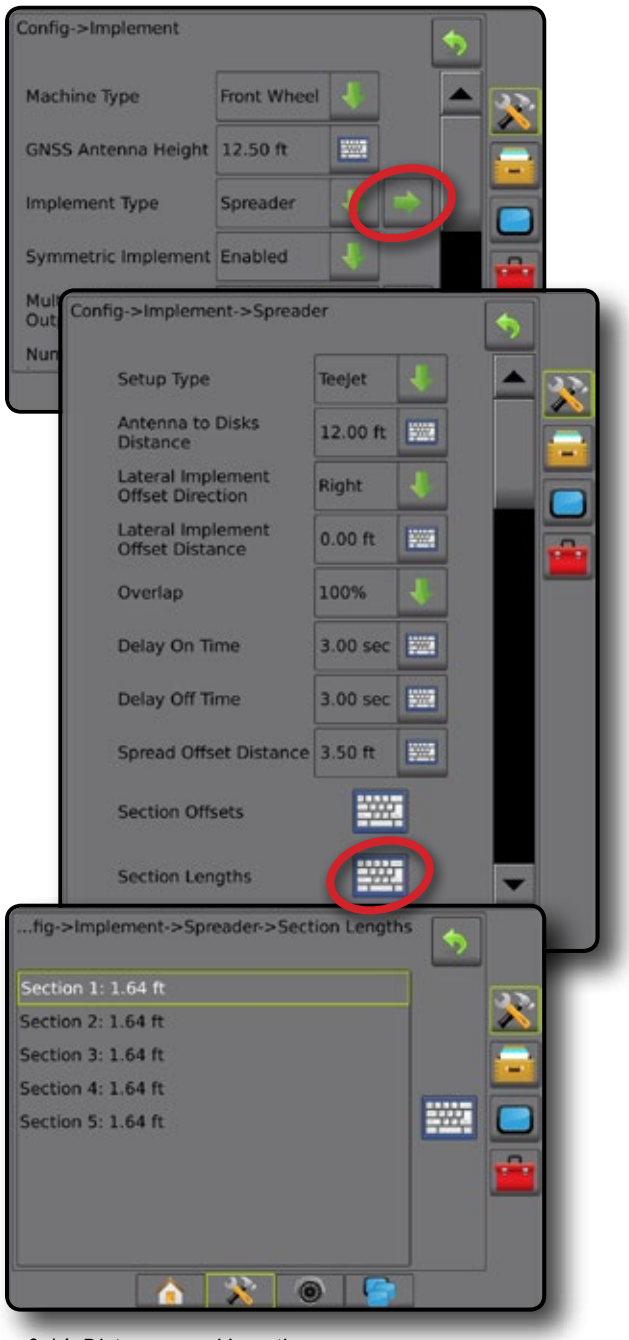


Figure 6-14: Distances and Length

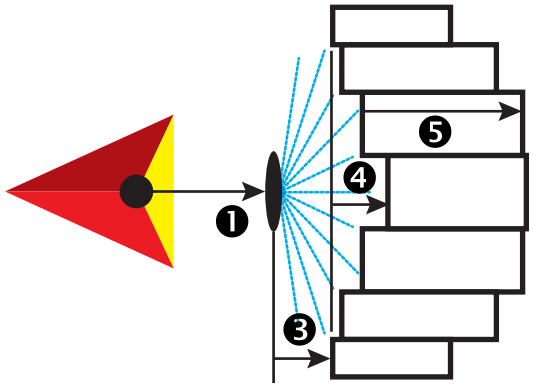


Figure 6-15: Lateral Offset Direction and Distance

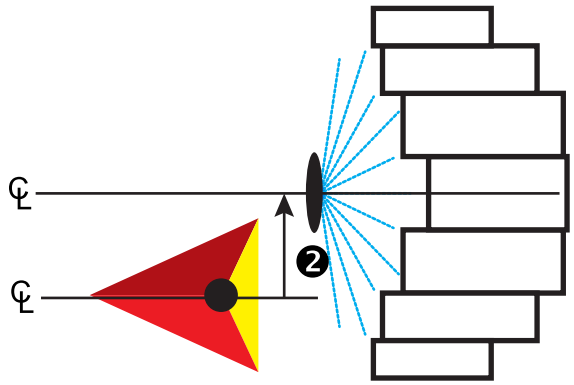
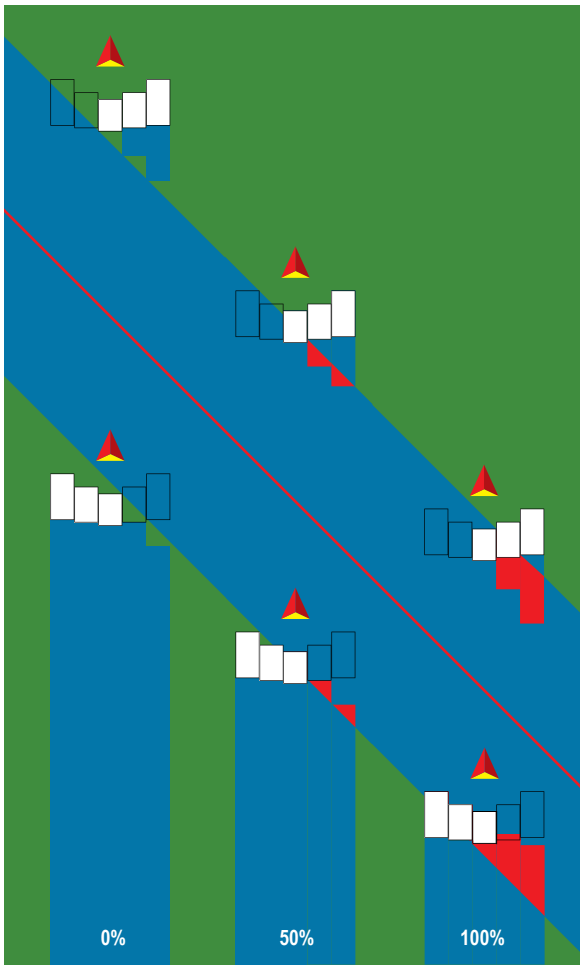


Figure 6-16: Overlap



Spreader – OEM

A virtual line is created in line with the delivery disks from which the application section or sections can vary in length and can be at different distances from the line.

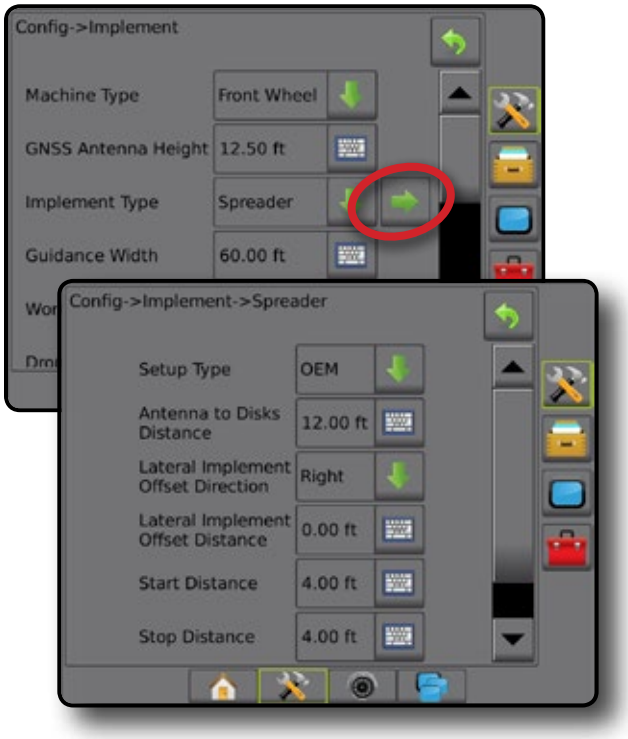
Single Section

No section control is available on the system.

1. Select **Spreader** implement type on Implement screen.
2. Press Implement Type NEXT PAGE arrow.
3. Select from:
   - ▶ Setup Type – used to select **OEM** spreader type
   - ▶ Antenna to Disks Distance – used to define the distance from the GNSS antenna to the disks or dispersal mechanism
   - ▶ Lateral Implement Offset Direction – used to select the lateral direction from the center line of the machine to the center of the implement while facing in the machine's forward direction
   - ▶ Lateral Implement Offset Distance – used to define the lateral distance from the center line of the machine to the center of the implement
   - ▶ Start Distance – used to set the start distance when exiting an applied area (consult spreader manufacturer for value)
   - ▶ Stop Distance – used to set the stop distance when entering an applied area (consult spreader manufacturer for value)

   NOTE: Consult spreader manufacturer for start and stop distances.
4. Press RETURN arrow to return to the Implement screen or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-17: Single Section



Multiple Sections

Section control is available (SmartCable, Section Driver Module (SDM), or Switch Function Module (SFM) or ISOBUS).

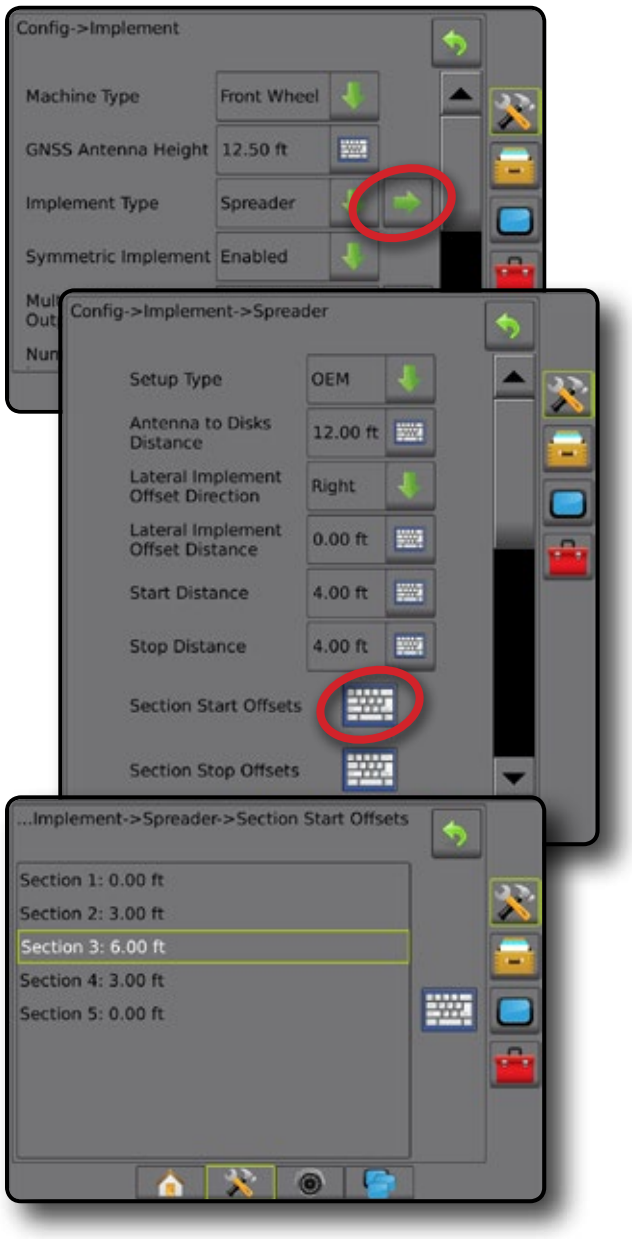
1. Select **Spreader** implement type on Implement screen.
2. Press Implement Type NEXT PAGE arrow .
3. Select from:
   - ► Setup Type – used to select **OEM** spreader type
   - ► Antenna to Disks Distance – used to define the distance from the GNSS antenna to the disks or dispersal mechanism
   - ► Lateral Implement Offset Direction – used to select the lateral direction from the center line of the machine to the center of the implement while facing in the machine's forward direction
   - ► Lateral Implement Offset Distance – used to define the lateral distance from the center line of the machine to the center of the implement
   - ► Start Distance – used to set the start distance when exiting an applied area (consult spreader manufacturer for value)
   - ► Stop Distance – used to set the stop distance when entering an applied area (consult spreader manufacturer for value)

     NOTE: Consult spreader manufacturer for start and stop distances.

   - ► Section Start Offsets – used to set the offset distance from Section 1 to the leading edge of each section. Section 1 is always 0. All other sections can be different distances.
   - ► Section Stop Offsets – used to set the offset distance from Section 1 to the trailing edge of each section. Each section can be a different distance.

     NOTE: Consult spreader manufacturer for section start and stop offset values. Sections are numbered from left to right while facing in the machine's forward direction.
4. Press RETURN arrow to return to the Implement screen or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-18: Multiple Sections



Staggered

A virtual line is created in line with Section 1 from which the application section or sections have no length and can be at different distances from the antenna.

Multiple Sections

Section control is available (SmartCable, Section Driver Module (SDM), or Switch Function Module (SFM) or ISOBUS).

1. Select **Staggered** implement type on Implement screen.
2. Press Implement Type NEXT PAGE arrow.
3. Select from:
   - ▶ In-line Section 1 Offset Direction ❶ – used to select whether Section 1 (the zero-point of the Section Offsets) is located in front of or behind the GNSS antenna as the vehicle moves in a forward direction
   - ▶ In-line Section 1 Offset Distance ❶ – used to define the in-line distance from the GNSS antenna to Section 1 (the zero-point of the Section Offsets)
   - ▶ Lateral Implement Offset Direction ❷ – used to select the lateral direction from the center line of the machine to the center of the implement while facing in the machine's forward direction
   - ▶ Lateral Implement Offset Distance ❷ – used to define the lateral distance from the center line of the machine to the center of the implement
   - ▶ Overlap – used to define the amount of overlap allowed when using automatic boom section control
   - ▶ Delay On Time – used to set the time when the section will switch on when entering an area that has not been applied

     NOTE: If the application turns on too soon when entering an unapplied area, decrease the Delay On time. If the application turns on too late, increase the Delay On time.
   - ▶ Delay Off Time – used to set the time when the section will switch off when entering an area that has been applied

     NOTE: If the application turns off too soon when entering an unapplied area, decrease the Delay Off time. If the application turns off too late, increase the Delay Off time.
   - ▶ Section Offsets ❸ – used to set the offset distance from Section 1 (the In-Line Section 1 Offset Distance line) to each section. A positive offset value will move the section behind Section 1. A negative offset value will move the section in front of Section 1. Section 1 is always 0. All other sections can be different distances.
4. Press RETURN arrow to return to the Implement screen or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-19: Multiple Sections

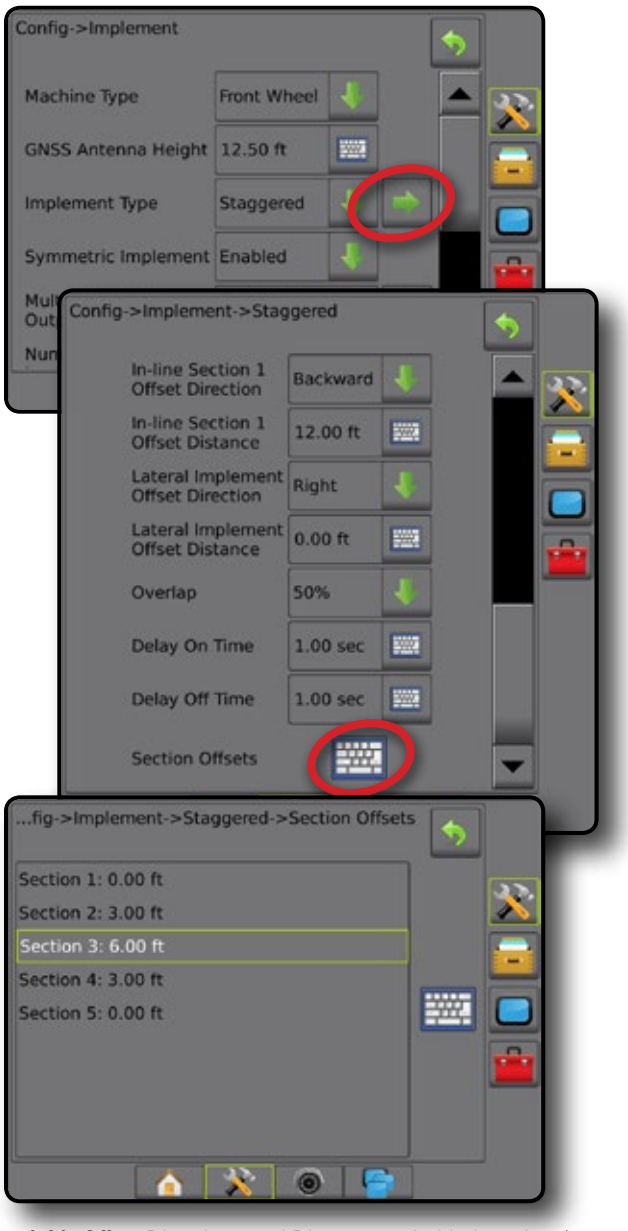


Figure 6-20: Offset Directions and Distances – behind section 1

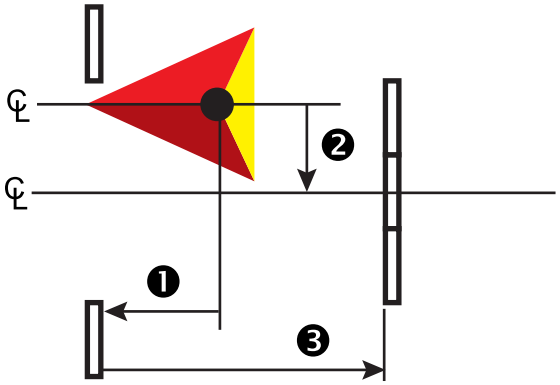


Figure 6-21: Offset Directions and Distances – in front of section 1

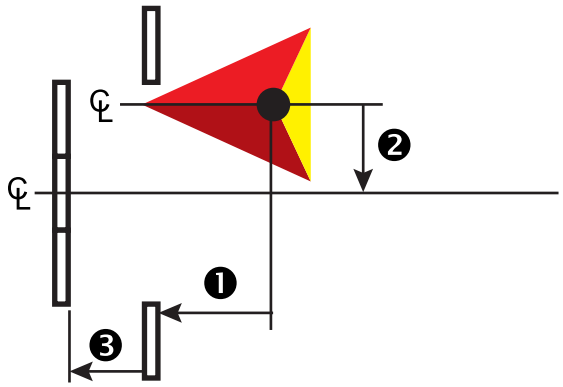
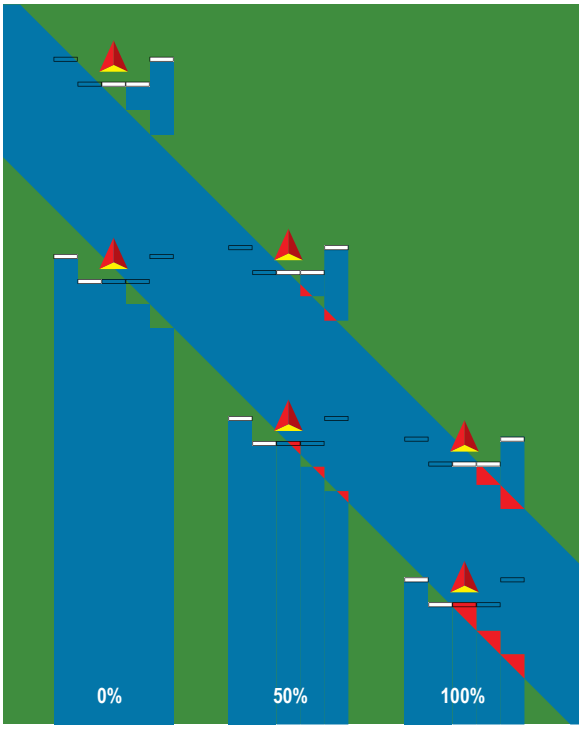


Figure 6-22: Overlap



APPLICATION OR WORKING WIDTH

Application Width [Straight Implement Type or Staggered Implement Type] or Working Width [Spreader Implement Type] is used to enter the width of the single section or width of each section to calculate the total width of the implement.

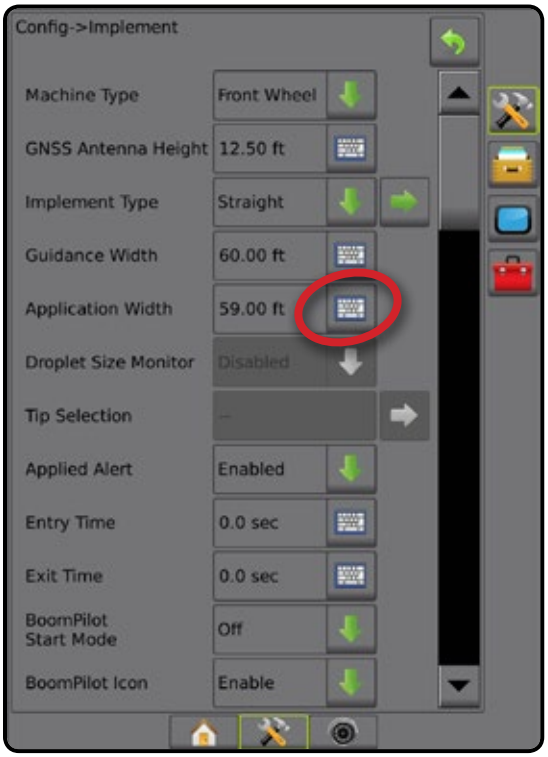
Single Section

No section control is available on the system.

Application Width or Working Width is used to enter the total width of the single section of the implement. Range is 3.28 to 246.06 feet / 1.0 to 75.0 meters.

1. Press CONFIGURATION side tab .
2. Press **Implement**.
3. Press the Application Width [Straight Implement Type] or Working Width [Spreader Implement Type] KEYPAD icon .
4. Use the numeric keypad to enter a value.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-23: Single Section – Application or Working Width



Multiple Sections

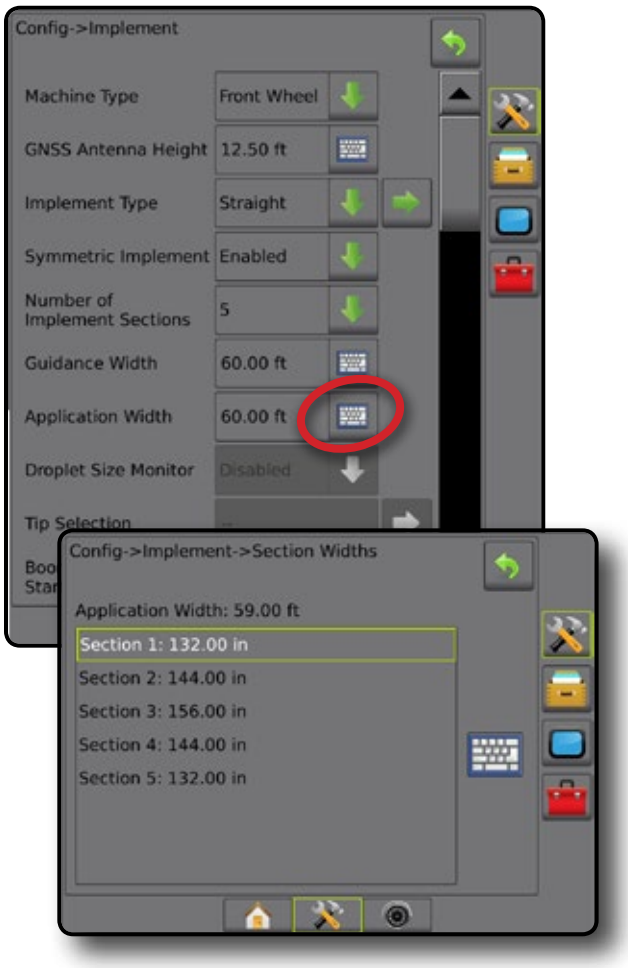
Section control is available (SmartCable, Section Driver Module (SDM), or Switch Function Module (SFM) or ISOBUS).

Application Width or Working Width is used to enter the width of each section to calculate the total width of all sections of the implement. Each section can be a different width. Sections are numbered from left to right while facing in the machine's forward direction. Range for each section is 0.0 to 246.06 feet / 0.0 to 75.0 meters. Total for all sections must be greater than 3.28 feet / 1.0 meter.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Press the Application Width [Straight Implement Type or Staggered Implement Type] or Working Width [Spreader Implement Type] KEYPAD icon.
4. Highlight the section to be entered or edited.
5. Press the KEYPAD icon
6. Use the numeric keypad to enter the width of the selected section.
7. Press RETURN arrow or CONFIGURATION side tab to return to the Implement screen or main Configuration screen.

NOTE: If Symmetric Implement Layout is enabled, only the first of each pair of aligned sections will be available to be highlighted.

Figure 6-24: Multiple Sections – Application or Working Width



LATERAL IMPLEMENT OFFSET DISTANCE ADJUSTMENT

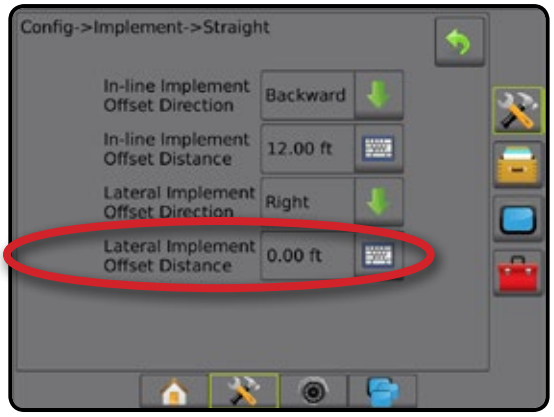
Lateral implement offset distance is used to enter the distance from the center line of the machine to the center of the implement. When on-screen mapping shows no overlap or gap, yet field application produces an overlap or gap consistently to only one side in the direction of travel, an adjustment to the lateral implement offset distance should be calculated and made to the implement offset distance value.

If using a self-propelled sprayer or spreader, use the GNSS Offset Adjustment Calculation to calculate the implement offset distance adjustment.

If using a pull behind or trailed implement, use the Implement Offset Adjustment Calculation to calculate the implement offset distance adjustment.

NOTE: While using assisted/auto steering, if on-screen mapping shows overlaps and gaps, adjustments may need to be made to the assisted/auto steering settings.

Figure 6-25: Lateral Implement Offset Distance



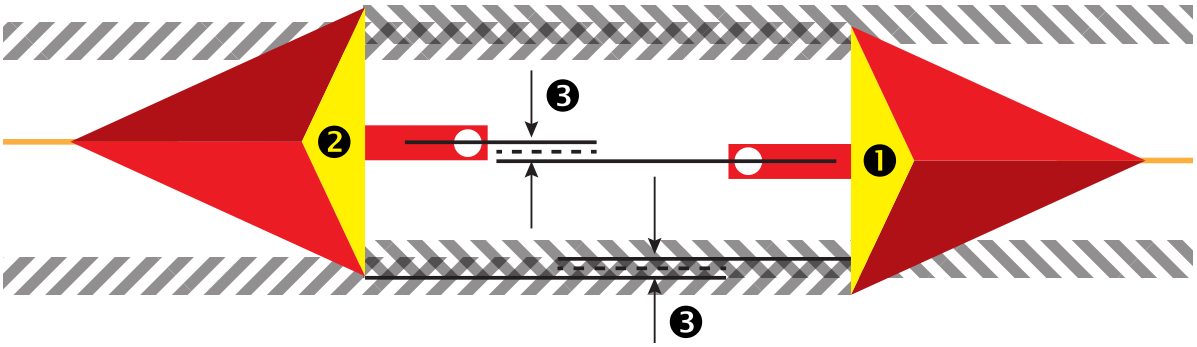
GNSS Offset Adjustment Calculation

To calculate a GNSS offset adjustment using the same guideline:

1. Create a straight AB line.
2. With assisted/auto steering engaged, drive pass ❶ at least 100 feet / 30 meters, and place flags at the draw bar or next to the machine.
3. Turn around and engage assisted/auto steering on pass ❷ on the same AB guideline. Place flags at the draw bar or next to the machine, or stop while on the AB guideline next to the flags you placed on pass ❶.
4. Measure the difference ❸ between the flags of pass ❶ and pass ❷.
5. Divide the measured distance ❸ in half. This difference will be the offset adjustment.
6. Increase or decrease the offset distance as needed dependent on where the field application overlap occurs and the current implement offset direction setting.

Field Application Overlap	Current Offset Settings		
	Offset Direction = Left	Offset Direction = Right	Offset Direction = Right Offset Distance = 0 ft/m
To the right of pass ❶	Increase distance offset value	Decrease distance offset value	Increase distance offset value
To the left of pass ❶	Decrease distance offset value	Increase distance offset value	Change to implement offset direction to left and increase distance offset value

Figure 6-26: GNSS Offset Distance



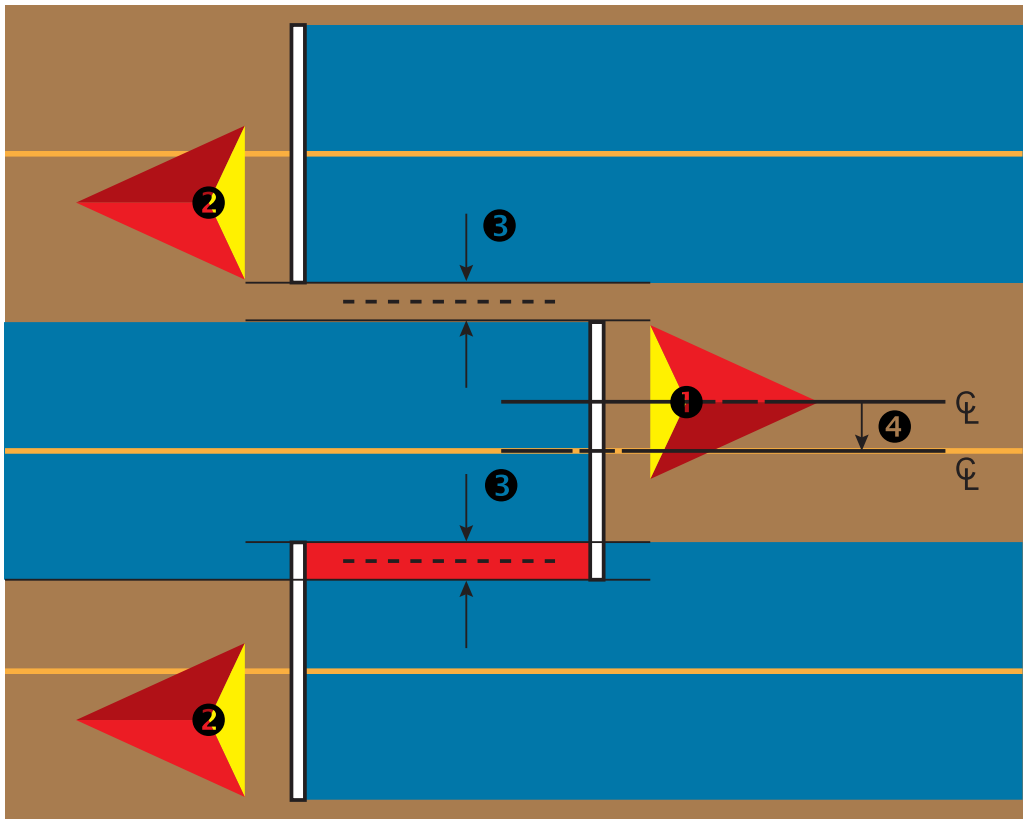
Lateral Implement Offset Adjustment

To calculate an implement offset adjustment using adjacent guidelines:

1. Create a straight AB line.
2. With assisted/auto steering engaged, drive pass ❶ as if you were operating the implement, and place flags at the outside edges of the implement.
3. Turn around and engage assisted/auto steering on pass ❷ on the adjacent AB guideline. Place additional flags at the outside edges of the implement or stop while on the AB guideline next to the flags you placed on pass ❶.
4. Measure the difference ❸ between the flags of pass ❶ and pass ❷.
5. Divide the measured distance ❸ in half. This difference will be the offset adjustment.
6. Increase or decrease the offset distance ❹ as needed dependent on where the field application overlap occurs and the current implement offset direction setting.

Field Application	Current Offset Settings		
	Offset Direction = Left	Offset Direction = Right	Offset Direction = Right Offset Distance = 0 m
Overlap on the right of pass ❶ or Gap on the left of pass ❶	Increase distance offset value	Decrease distance offset value	Increase distance offset value
Overlap on the left of pass ❶ or Gap on the right of pass ❶	Decrease distance offset value	Increase distance offset value	Change to implement offset direction to left and increase distance offset value

Figure 6-27: Lateral Implement Offset Distance and Direction

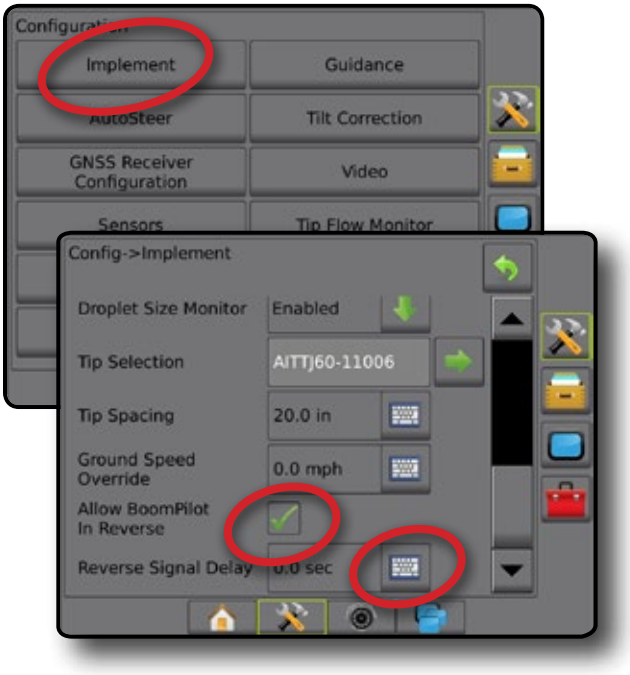


REVERSE SENSE MODULE

Reverse Sense Module Setup is used when adding a Reverse Sense Module to any configuration. This allows for application mapping and control, and on-screen guidance when traveling in reverse.

1. Press CONFIGURATION side tab .
2. Press **Implement**.
3. In addition to standard options, select from:
   - ► Allow BoomPilot in Reverse – used to enable BoomPilot function while traveling in reverse
   - ► Reverse Signal Delay – used to set the delay when going from forward to reverse or reverse to forward, after which the vehicle icon on a navigation screen changes direction

Figure 6-28: Reverse Sense Module



Reverse on Guidance Screens

While traveling in reverse, having BoomPilot in Reverse active will allow for automatic section control. Application mapping and application rate control will function as if the machine was going forward.

- ◄Speed on the Guidance Bar will turn red while traveling in reverse

Figure 6-29: Traveling Forward

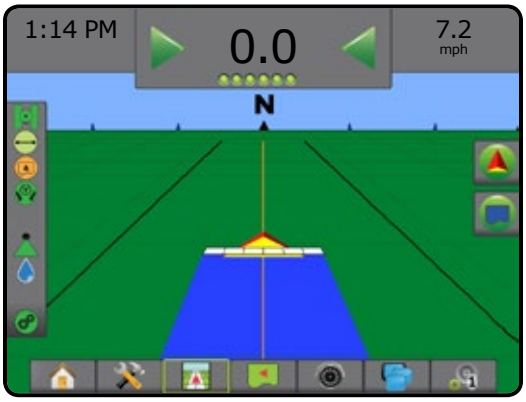
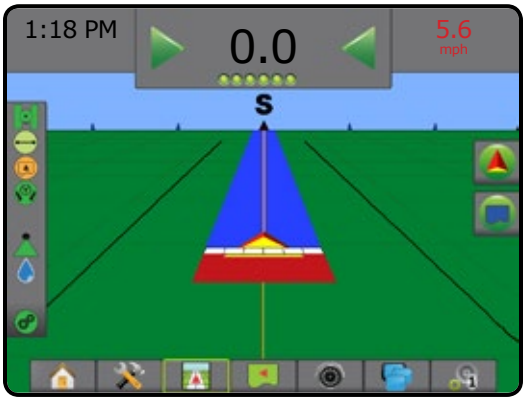


Figure 6-30: Traveling in Reverse



TIP SELECTION

When the system includes a Pressure Sensor Interface Kit (PSIK), or a Dual Control Module with Product Control Application Type set to "Liquid" and the Primary Sensor or a Monitor set to "Pressure", Tip Selection is used to select the type of sprayer tip (series and capacity) for determining droplet size information.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
   ◄Current Tip selection is shown in the information box
3. Press Tip Selection NEXT PAGE arrow.
4. Select from:
   ► Tip Preset 1-5 – selects up to five (5) tips for quick recall, and selected the current tip for determining droplet size information
   ► Current Tip – displays the current tip
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

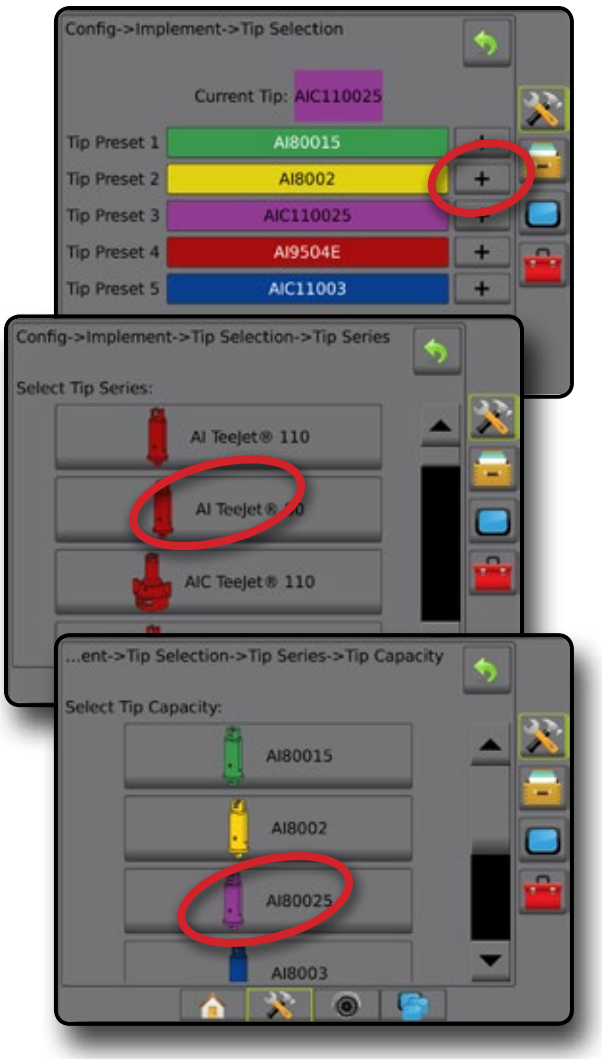
Figure 6-31: Droplet Size Monitor

Preset

Tip presets allow saving of up to five tips for quick recall.

1. Press **+**.
2. Select a TeeJet tip series.
3. Select tip capacity.

Figure 6-32: Preset Tip



Current Tip

Current Tip shows the active tip for determining current droplet size information. Tips must be preset to be available for current tip selection.

1. Press desired tip.

Selected tip will be shown:

- ◀The information box on the Implement screen
- ◀The Droplet/Pressure Status display from the status bar on the guidance screens

Figure 6-33: Current Tip

DROPLET SIZE MONITOR

When the system includes a Pressure Sensor Interface Kit (PSIK), or a Dual Control Module with Product Control Application Type set to "Liquid" and the Primary Sensor or a Monitor set to "Pressure", Droplet Size Monitor can be enabled/disabled. The DSM then becomes available on the operation screens.

Setup

Enable/Disable DSM

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Press **Droplet Size Monitor**.
4. Select if droplet size monitor is enabled or disabled.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

NOTE: When Droplet Size Monitor is disabled, the Droplet/Pressure Status is not available on the guidance screen status bar.

Figure 6-34: Droplet Size Monitor

Tip Selection / Current Tip

To establish the tip presets and current tip, see "Tip Selection" in this chapter.

Input/Output Module Pressure Sensor

When a Pressure Sensor Interface Kit is present, Pressure Sensor options are used to enter the sensor manufacture's maximum pressure rating and set high and low user determined pressure alarms.

NOTE: For more information, see "Sensors" in the Setup chapter of this manual.

Operation

Status Bar

Droplet/Pressure Status displays information regarding the current status of the droplet size and system pressure.

1. Press DROPLET/PRESSURE STATUS icon .
2. Press the screen anywhere to return to the guidance screen.

Figure 6-35: Droplet/Pressure Status

Droplet/Pressure Status
Colored = Engaged. The color of the droplet is directly associated with the current droplet size. Color options include:
Crossed Out = Disabled
No icon = no Pressure Sensor Interface Kit is installed on system

Droplet Size Chart

When choosing a spray tip that produces droplet sizes in one of the eight droplet size classification categories, always remember that a single tip can produce different droplet size classifications at different pressures. A tip might produce medium droplets at low pressures, while producing fine droplets as pressure is increased.

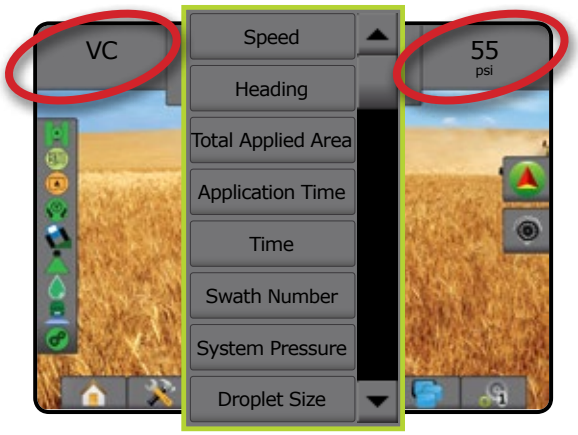
Category	Symbol	Color Code
Extremely Fine	XF	Violet
Very Fine	VF	Red
Fine	F	Orange
Medium	M	Yellow
Coarse	C	Blue
Very Coarse	VC	Green
Extremely Coarse	XC	White
Ultra Coarse	UC	Black

Guidance Bar

The Guidance bar keeps you informed of your choice of selectable information including Current System Pressure and Current Droplet Size.

1. Press SELECTABLE INFORMATION box.
2. Select from:
   - ▶ System Pressure – displays the current system pressure
   - ▶ Droplet Size – displays the current tip droplet size
3. Press outside the selection box to return to the guidance screen.

Figure 6-36: Guidance Bar Selectable Information



GROUND SPEED OVERRIDE

Available with a Dual Control Module (DCM) when using a Automatic Switchbox (ASB) or Input Status Module (ISM), Ground Speed Override (GSO) is the minimum speed used for automatic application rate control. When the vehicle speed falls below this setting, the Ground Speed Override speed is used to control the application rate, rather than the actual ground speed.

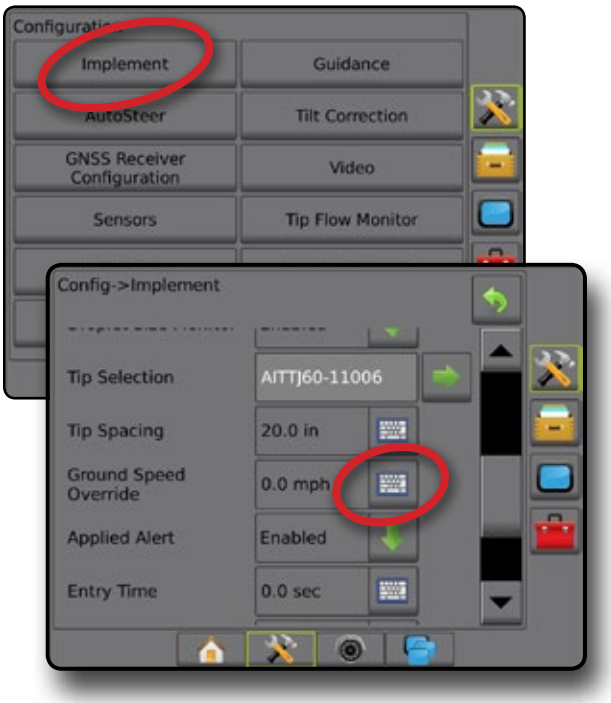
The Ground Speed Override (GSO) setting can be used to temporarily operate the implement using a pre-selected GSO speed rather than the actual speed. The override feature is used to bring the implement on line quickly when starting from a dead stop or to maintain an adequate application pattern when the machine is maneuvering at very low ground speeds. It can also be used to allow the operator to flush the implement from the cab with the machine stopped.

- ▶ GSO Switch Off – control console operates normally
- ▶ GSO Switch On and the actual ground speed is less than the GSO speed – control console uses the set "GSO Speed" value to control both carrier and injected chemical flow rates

CAUTION: When traveling at a speed slower than the GSO speed setting, this feature will cause the product to be applied at a rate consistent with the GSO speed, rather than the true ground speed.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Press the Ground Speed Override KEYPAD icon.
4. Use the numeric keypad to enter a value.
5. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

Figure 6-37: Ground Speed Override



BOOMPILOT

Depending on if there is a section control system present and when present what kind of section control is being used as well as what options are enabled, there are multiple options for BoomPilot section control. The settings of BoomPilot Start Mode and BoomPilot Icon change how section control is handled on the guidance screens.

1. Press CONFIGURATION side tab.
2. Press **Implement**.
3. Select from:
   - ▶ BoomPilot Start Mode – used to enable automatic BoomPilot activation by speed (otherwise manually by icon)
   - ▶ BoomPilot Icon – used to activate icon for manually controlling BoomPilot
4. Press RETURN arrow or CONFIGURATION side tab to return to the main Configuration screen.

System Configuration Chart

	BoomPilot Start Mode Available	BoomPilot Icon Available
No Section Control Module (SCM)		
Console Only	✸	✓ - Enable
with Optional Work On/Off Switch	✸	✓ - Disable
ISOBUS Sprayer		
Console and ECU Only	✸	✓ - Enable
with Switchbox	✸	✓ - Disable
with an ISOBUS Implement Status Module (ISO ISM)	✸	✓ - Enable
ISOBUS Spreader		
Console Only	✸	✓ - Enable
with Optional Spreader On/Off Switch	✸	✓ - Disable
With TeeJet Section Control Module (SCM) and Switchbox or ISM	×	×
With TeeJet Section Control Module (SCM)	✓	×

✸ *BoomPilot Start Mode setting will make no difference in the function of this option.*

✓ *Available.*

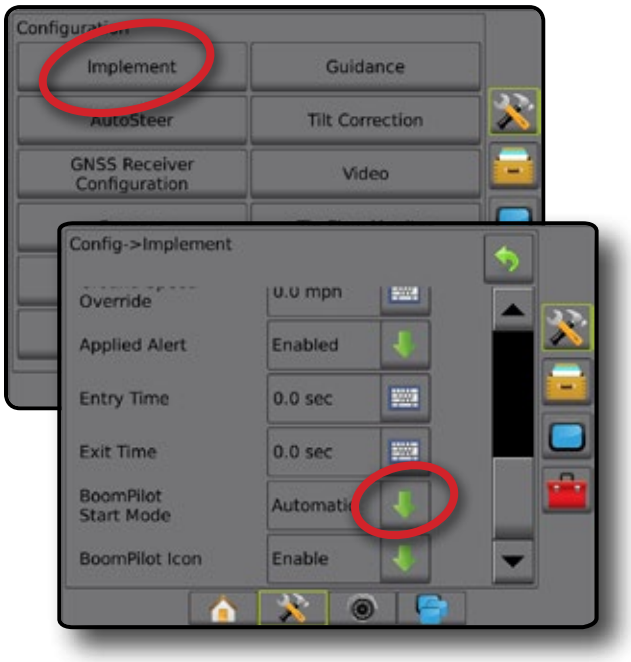
× *Not available.*

BoomPilot Start Mode

BoomPilot Start Mode is used to set if the BoomPilot control is started automatically by speed, or manually by the BoomPilot icon.

1. Press CONFIGURATION side tab .
2. Press **Implement**.
3. Press DOWN arrow to select Off or Automatic.
   - ◄Off – BoomPilot will be controlled by the BoomPilot icon in the Navigation and Guidance options on the guidance screens
   - ◄Automatic – BoomPilot will be controlled by speed

Figure 6-38: BoomPilot Icon



BoomPilot Icon

The BoomPilot Icon is used to activate an icon in the Navigation and Guidance options on the guidance screens for manually controlling BoomPilot

1. Press CONFIGURATION side tab .
2. Press **Implement**.
3. Press DOWN arrow to select Enable or Disable.
   - ◄Enable – BoomPilot Icon will be available in the Navigation and Guidance options on the guidance screens to control automatic section control
   - ◄Disable – BoomPilot Icon will not be available in the Navigation and Guidance options

Figure 6-39: BoomPilot Icon

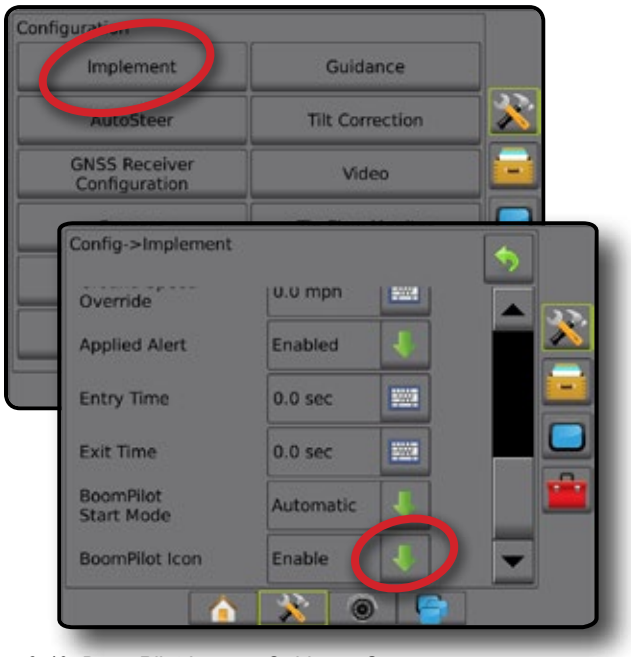


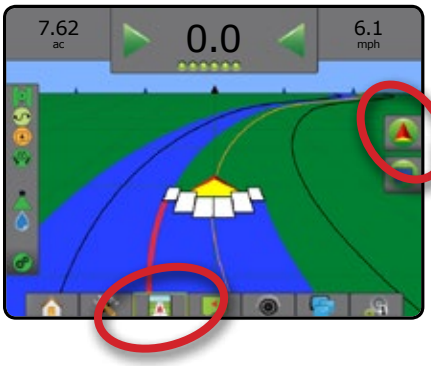
Figure 6-40: BoomPilot Icon on Guidance Screen

CHAPTER 7 – GUIDANCE

The Aeros 9040 allows product application and vehicle guidance to be performed simultaneously. Once system setup is complete, guidance can begin. Five guidance modes allow users to optimize the field work: Straight AB, Curved AB, Circle Pivot, Last Pass, and NextRow. Additional optimization can be accomplished with Boundary Application, Curved Lookahead, Return to Point, and RealView Guidance Over Video. In addition, Coverage and Application mapping functions can display and record product application, and Prescription and Target Rate maps can direct product application.

Three guidance screens assist in keeping you informed.

Vehicle View Guidance creates a computer-generated image of the vehicle position displayed in the application area.



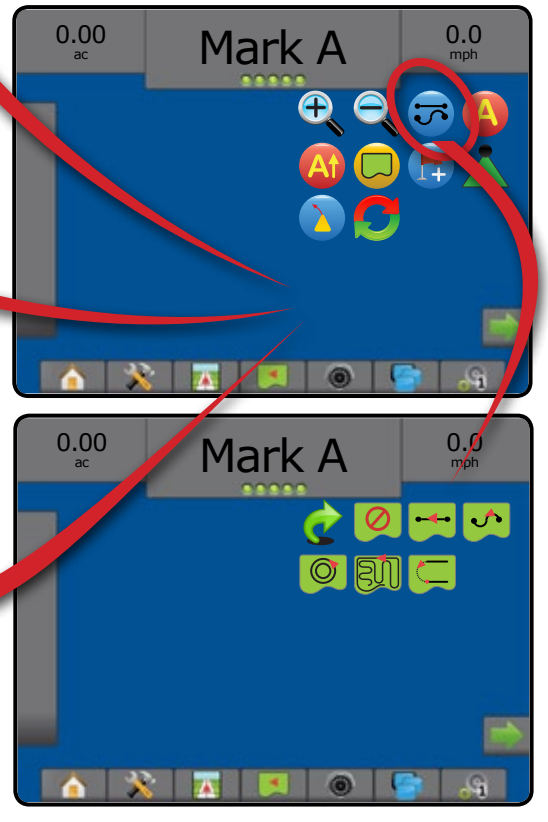
Field View Guidance creates a computer-generated image of vehicle position and application area from an aerial perspective.

RealView Guidance allows live video input to be displayed instead of a computer-generated image.

To choose a Guidance Mode:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press GUIDANCE MODE icon.
3. Select from:
   - ▶ Straight AB Guidance
   - ▶ Curved AB Guidance
   - ▶ Circle Pivot Guidance
   - ▶ Last Pass Guidance
   - ▶ NextRow Guidance
   - ▶ No Guidance

Figure 7-1: Choose a Guidance Mode



Navigation Screens Options

Navigation and Guidance Options

Guidance Mode	
	Guidance Mode – access to guidance mode options
	Straight AB Guidance – provides straight-line guidance based on A and B reference points
	Curved AB Guidance – provides guidance along curved lines based on an initial AB reference line
	Circle Pivot Guidance – provides guidance around a central location that radiates inward or outward based on an initial AB reference line
	Last Pass Guidance – offers true last-pass navigation
	NextRow Guidance – indicates where the NextRow is located, and provides guidance at row ends to the next adjacent row
	No Guidance – turns off guidance

Boundaries	
	Mark Boundary – establishes application area and determines no-apply zones. While creating an external or initial boundary, the boundary line will be to the exterior of the outer-most section. While creating an interior or additional boundary, the boundary line will be to the interior of the inner-most section. Grayed = GNSS is unavailable.
	Finish Boundary – finalizes boundary process. Boundaries can also be closed by travelling to within a swath width of the starting point. Grayed = minimum distance has not been travelled.
	Cancel Boundary – cancels the new mark boundary process. Reverts to previous boundary (when established).
	Delete Boundary – deletes all established boundaries from current job.

BoomPilot	
	Toggles the Automatic Sprayer Control (ASC) on or off. Grayed = GNSS is unavailable.

Tip Flow Monitor	
	Tip Fault Reset – clears any tip fault indications.

Return to Point	
	Mark Point – establishes a point at the vehicle location. Grayed = GNSS is unavailable.
	Return to Point Guidance – provides distance and guidance back to an established point.
	Delete Point – deletes the Marked Point.
	Cancel Guidance – hides the distance and guidance back to the Marked Point.

Guidelines	
A	Mark A – marks the first point of the guideline.
B	Mark B – marks the end point of the guideline. Grayed = minimum distance has not been travelled.
	Cancel Mark A – cancels the Mark A process. Reverts to previous AB guideline (when established).
B	NextRow Mark B – marks the end point of the row.
A	Azimuth Degree – establishes a straight guideline measured by degrees clockwise from a north-south baseline. North = 0, East = 90, South = 180, West = 270.
A+	A+ Nudge – shifts the existing guideline to the vehicle's current position.
	Next Straight Guideline – shows the next straight AB or Azimuth Degree guideline saved in the current job.
	Next Curved AB Guideline – shows the next Curved AB guideline saved in the current job.
	Next Circle Pivot Guideline – shows the next Circle Pivot AB guideline saved in the current job.
	Curved Lookahead – indicates where the current steering will take the vehicle using a 'pointer' as guidance.

Screen Options

Zoom In/Out		
	Vehicle View – icons adjust the vehicle's view or perspective to the horizon from vehicle view to bird's-eye view.	
	Field View – icons increase/decrease the area displayed on the screen.	

Pan	
	Arrows – move the displayed map area in the corresponding direction without moving the vehicle.
	World View – extends the screen view to the widest area available.

Mapping Options

	Coverage Map – shows areas covered by the implement, regardless of whether product was applied.	
	Prescription Map – pre-loaded map that provides information to the rate controller for use in applying product	
	Application Map – shows where product has been applied, using color to indicate level in proportion to preset maximum and minimum levels	
	Target Rate Map – shows the application rate that the rate controller will attempt to achieve (can be monitored from the Rate Control bottom tab)	
	Vehicle View – icons adjust the vehicle's view or perspective to the horizon from vehicle view to bird's-eye view.	
	Field View – icons increase/decrease the area displayed on the screen.	

RealView Guidance Options

	Video Camera Select – selects one of up to eight camera views if a Video Selection Module (VSM) is attached.
	Split Camera View – selects one of two sets of four camera inputs (A/B/C/D or E/F/G/H) to divide the screen into four separate video feeds.
	Guidance Over Video Setup – access to turn on Guidance Over Video or Steering Angle and adjust guidelines.
	Guidance Over Video – places three-dimensional guidelines over the video feed for navigational assistance.
	Steering Angle – displays the direction in which the steering wheel needs to be adjusted.
	Up & Down Icons – used to adjust the guidance lines and horizon line to match the camera's view.
	Camera Image Capture – saves a still photo of the current view on the screen to a USB drive.

GUIDANCE BAR

The Guidance bar keeps you informed of your choice of selectable information, navigation activity, and section status.

Navigation Activity & Boom Status

GNSS Status – displays "No GNSS" when GNSS is unavailable, or "Slow GNSS" when GNSS is receiving GGA data at less than 5Hz

Cross Track Error – displays the distance from your desired guideline

Current Activity – displays activities such as mark an A or B point, approaching the end of a row, indicating to turn now, and distance to return to a marked point

Section Status – one dot is displayed for each section programed: a green dot indicates the section is active, and a red dot indicates the section is not active

Figure 7-2: Navigation Activity/Section Status

Cross Track Error

The distance around the guideline that is perceived as zero error can be adjusted using Configuration-> Guidance-> Guidance Sensitivity.

To change the format in which the distance is displayed:

1. Press the Navigation Activity box on the guidance bar.
2. Select the measurement format.

Selectable Information

Speed – displays the current speed of travel

Heading – displays the course of travel based clockwise from a north-south baseline. North = 0°, East = 90°, South = 180°, West = 270°.

Total Applied Area – displays the total accumulated area that has had product applied, including double-coverage areas

Application Time – displays the total time application is active during the current job

Time – displays the current time based on the selected time zone

Swath Number – displays the current swath number in reference to the initial AB guidance line, facing in the direction from A to B. Number will be positive when the vehicle is to the right of the AB baseline, or negative when the vehicle is to the left of the AB baseline.

System Pressure – displays the current system pressure (available only when an Input/Output Module or Dual Control Module with an active pressure sensor is on the system)

Droplet Size – displays the current tip droplet size (available only when an Input/Output Module or Dual Control Module with an active pressure sensor is on the system)

Actual Application Rate – displays the current application rate (available only when a rate controller is on the system)

Target Application Rate – displays the target application rate (available only when a rate controller is on the system)

Volume/Product Applied – displays the volume or weight of product applied (available only when a rate controller is on the system)

Tank/Bin Amount Remaining – displays the volume or weight of product remaining in the tank/bin (available only when a rate controller is on the system)

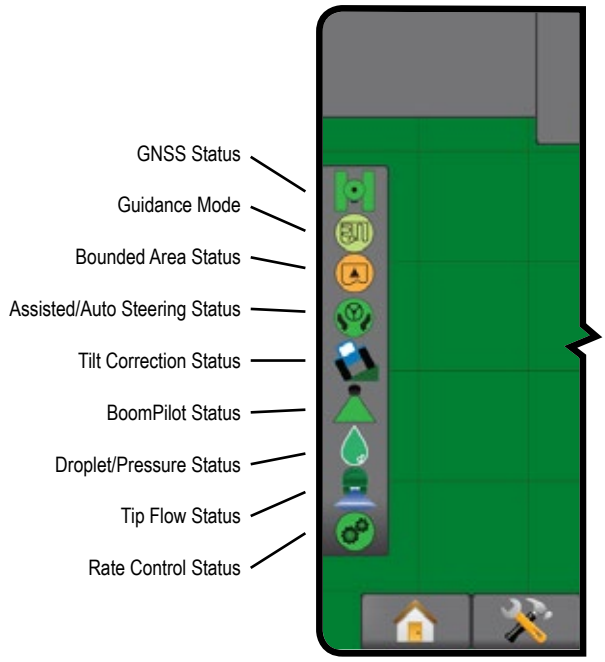
Figure 7-3: Selectable Information

STATUS BAR

The Status Bar provides information on GNSS status, guidance mode, boundary area, assisted/auto steering engagement, tilt correction, implement control status, droplet/pressure status, tip flow status, and rate control status.

When an icon is pressed, the related status information is displayed.

Figure 7-4: Status Bar



GNSS Status

- Green = GPS, GLONASS, or SBAS (with or without DGPS Required)
- Yellow = GPS only
- Red = no GNSS
- Orange = Glide/ClearPath

Guidance Mode

- Straight AB Guidance
- Curved AB Guidance
- Circle Pivot Guidance
- Last Pass Guidance
- NextRow Guidance
- No Icon = no Guidance

Bounded Area Status

- Outside Boundary = traveling outside bounded area
- Inside Boundary = traveling inside bounded area
- No Icon = no boundary established

Assisted/Auto Steering Status

- Green = engaged, actively steering
- Yellow = enabled, all conditions have been met to allow for assisted/auto steering
- Red = disabled, all conditions have not been met to allow for assisted/auto steering
- No Icon = no assisted/auto steering system installed

Tilt Correction Status

- Colored = engaged, actively applying tilt correction
- Red = disabled
- No Icon = no tilt gyro module installed on system, or tilt is associated with assisted/auto steering system

BoomPilot Status

- Green = automatic
- Yellow = all on
- Red = off/manual
- No Icon = single section (no SmartCable or SDM installed on system)

Droplet/Pressure Status

- Colored = engaged. The color of the droplet is directly associated with the current droplet size. Color options include:
- Crossed Out = disabled
- No Icon = no Pressure Sensor Interface Kit installed, no pressure sensor monitor on the DCM

Tip Flow Status

- Green = tip flow system calibrated with no tip errors
- Red = tip flow imbalance: flow is higher or lower than the tip alarm threshold
- No Icon = no tip flow monitor hardware detected

Rate Control Status

- Green = normal operation
- Yellow = system warning (incorrect rate/pressure, etc.)
- Red = system error (incorrect rate/pressure, etc.)
- No Icon = no rate control installed

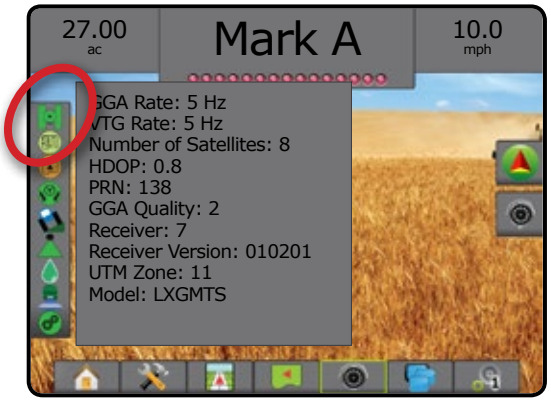
Status/Information Screens

GNSS Status

GNSS Status displays information regarding current GNSS status, including data rates, number of satellites in view, HDOP and PRN status, receiver and version, satellite quality and ID, and UTM zone.

1. Press GNSS STATUS icon .

Figure 7-5: GNSS Status

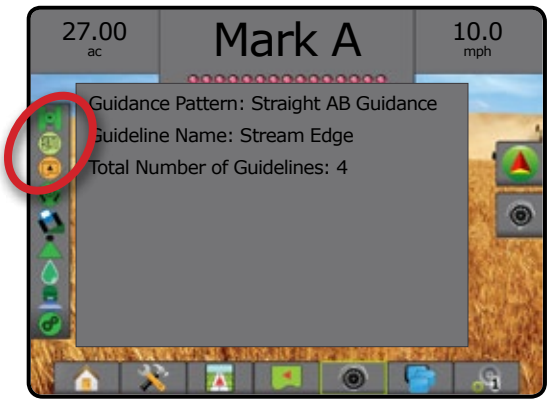


Guidance Mode Status

Guidance Mode Status displays information regarding the pattern of guidance, the name of the current guideline, and how many guidelines are saved in the console.

1. Press GUIDANCE MODE icon .

Figure 7-6: Guidance Mode Status

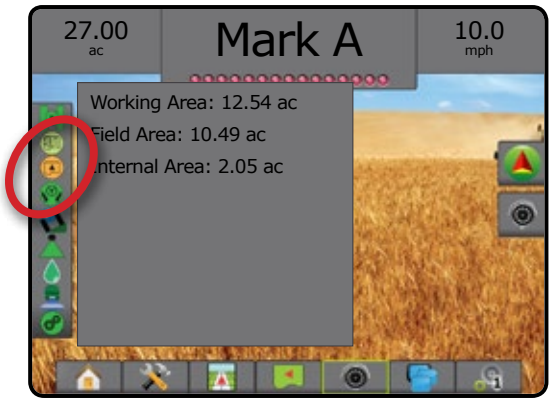


Bounded Area Status

Bounded Area Status displays information regarding the areas in the current boundaries.

1. Press BOUNDED AREA icon .

Figure 7-7: Bounded Area Status

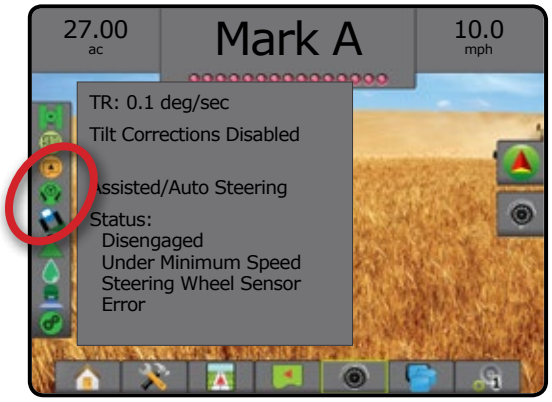


Assisted/Auto Steering Status

Assisted/Auto Steering Status displays information regarding the current status of the assisted/auto steering system, including tilt status.

1. Press ASSISTED/AUTO STEERING STATUS icon .

Figure 7-8: Assisted/Auto Steering Status

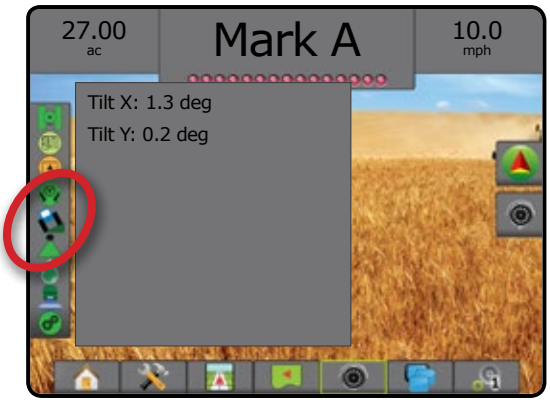


Tilt Correction Status

Tilt Correction Status displays information regarding the current status of the tilt correction system.

1. Press TILT CORRECTION STATUS icon .

Figure 7-9: Tilt Correction Status

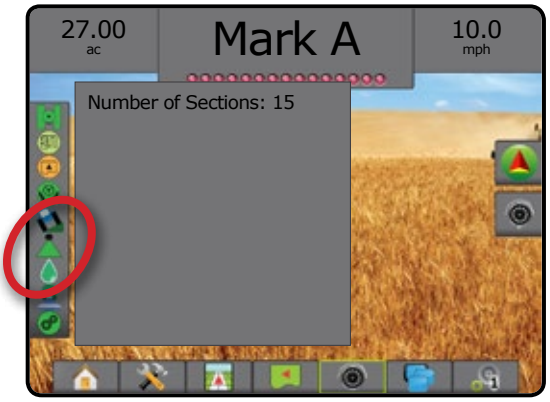


BoomPilot Status

BoomPilot Status displays information regarding the current status of the BoomPilot system.

1. Press BOOMPILOT STATUS icon .

Figure 7-10: BoomPilot Status

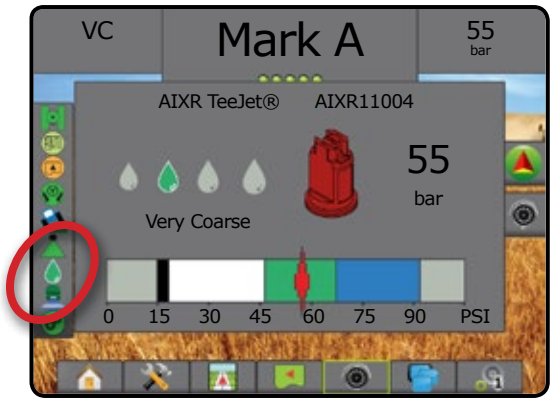


Droplet/Pressure Status

Droplet/Pressure Status displays information regarding the current status of the droplet size and system pressure.

1. Press DROPLET/PRESSURE STATUS icon .

Figure 7-11: Droplet/Pressure Status

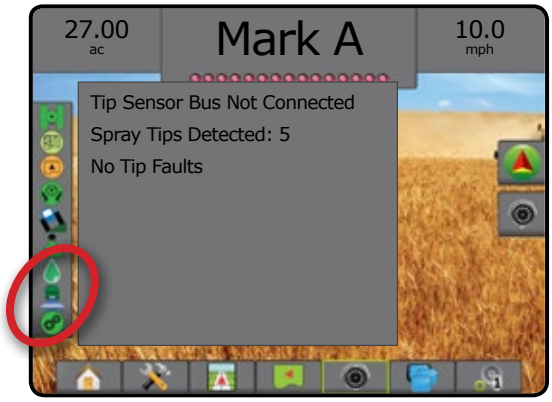


Tip Flow Status

Tip Flow Status displays information regarding the current status of the Tip Flow system and how many tips are detected on the system.

1. Press TIP FLOW STATUS icon .

Figure 7-12: Tip Flow Status



Product Rate Control Status

When using a Dual Control Module (DCM) for rate control, Product Rate Control Status displays status, warning, and error information regarding the rate controller on the system.

When using an ISOBUS system for rate control, the three status tabs will be blank.

1. Press PRODUCT RATE CONTROL STATUS icon .

Figure 7-13: Product Rate Control Status

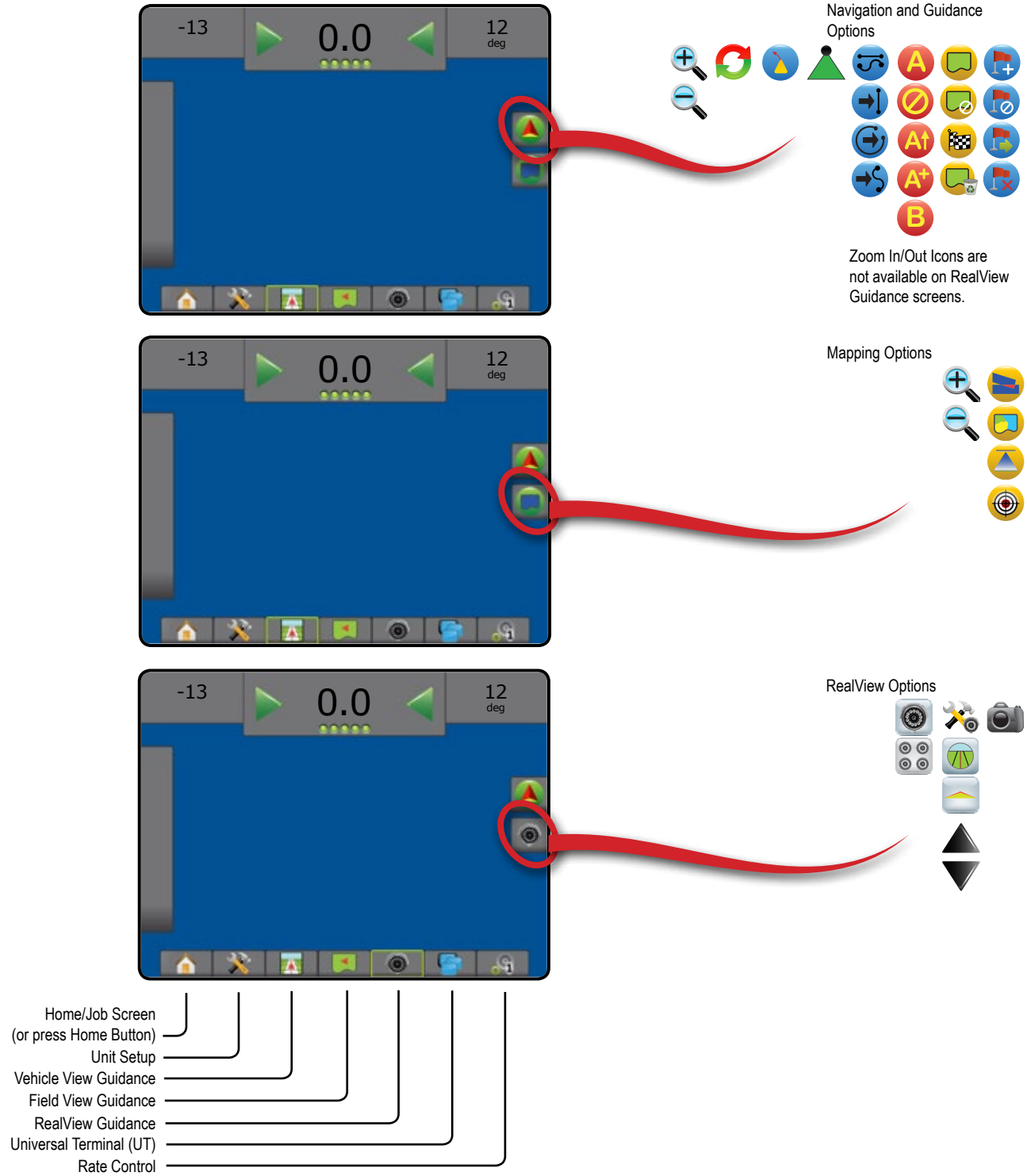
NOTE: Options shown on the Status tab include those available with **Enable Diagnostic** *enabled on the Configuration -> Control Channels -> Product Control Channel -> Diagnostic screen.*

NAVIGATION SCREENS

Guidance and navigation can be accessed from the Vehicle View screen, Field View screen, or RealView screen.

- Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
- Press MAPPING OPTIONS tab to display coverage and application maps.
- Press REALVIEW OPTIONS tab to display camera setup and guidance options.

Figure 7-14: Guidance Screen Options



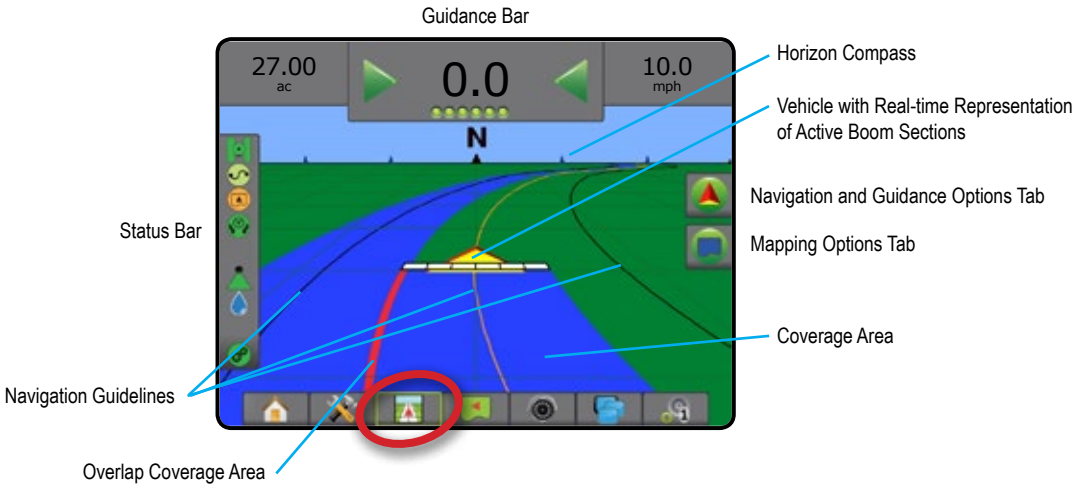
Vehicle View

Vehicle View creates a computer-generated image of the vehicle position displayed in the application area. From this screen all setup, mapping, and navigation options can be accessed via the Options tabs on the right side of the screen.

To access the Vehicle View screen:

1. Press VEHICLE VIEW GUIDANCE tab .

Figure 7-15: Vehicle View

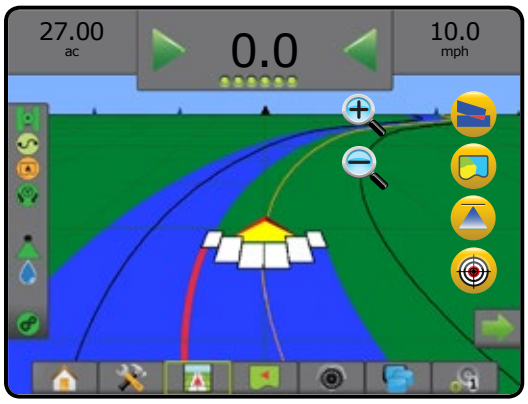


On Screen Guidance

- Guidelines
  - ◀Orange – active guidance line
  - ◀Black (multiple) – adjacent guidance lines
  - ◀Black – boundary line
  - ◀Black/White – prescription map zone boundary line
- Points – markers for established points
  - ◀Red Point – Return to Point
  - ◀Blue Point – Mark A
  - ◀Green Point – Mark B
- Horizon Compass – general heading can be displayed on horizon (when zoomed in)
- Coverage Area – illustrates applied area and overlap:
  - ◀Blue – one application
  - ◀Red – two or more applications
  - ◀User Selected – Application Map and Target Rate Map applied areas show colored bars relative to selected color range and map selection.
- Sections
  - ◀Empty boxes – inactive sections
  - ◀White boxes – active sections

Navigation and Guidance Options Tab

Mapping Options Tab



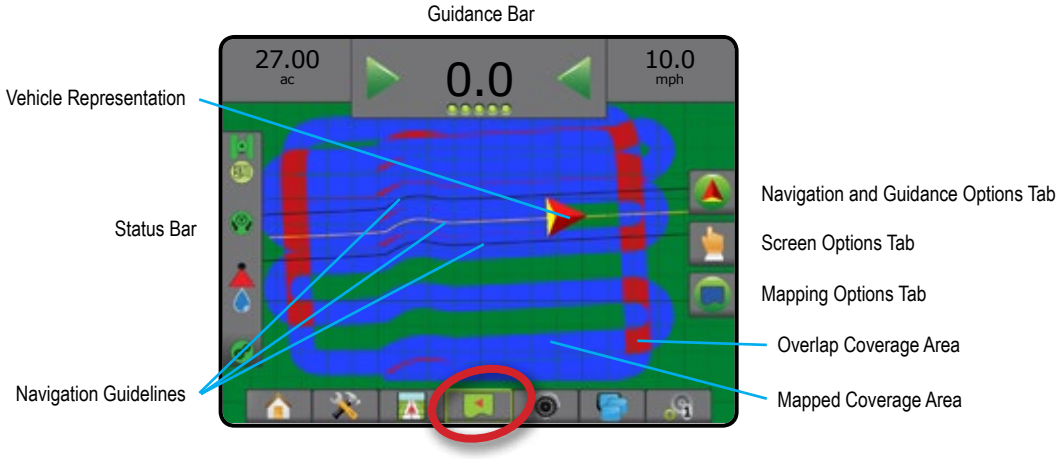
Field View

Field View creates a computer-generated image of the vehicle position and application area from an aerial perspective. From this screen, all setup and navigation options, as well as Pan Mode and mapping options, can be accessed via the Option tabs on the right side of the screen.

To access the Field View screen:

1. Press FIELD VIEW GUIDANCE tab .

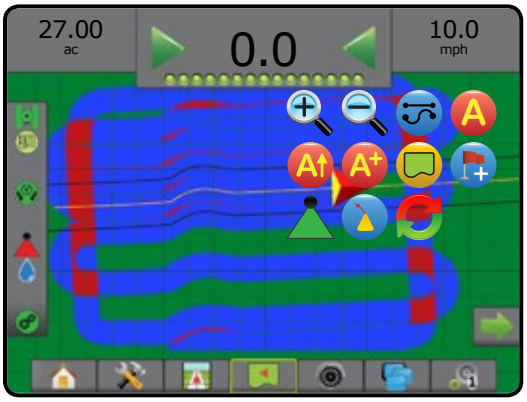
Figure 7-16: Field View



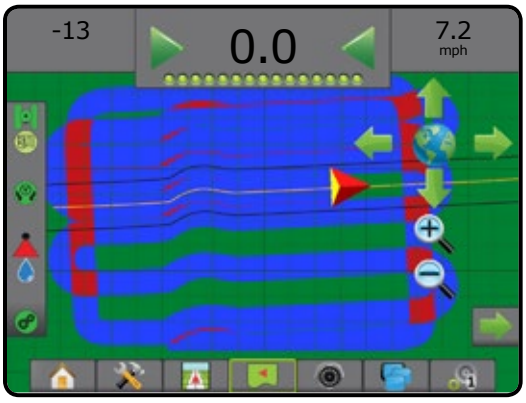
On Screen Guidance

- Guidelines
  - ◀Orange – active guidance line
  - ◀Black (multiple) – adjacent guidance lines
  - ◀Black – boundary line
  - ◀Black/White – prescription map zone boundary line
- Points – markers for established points
  - ◀Red Point – Return to Point
  - ◀Blue Point – Mark A
  - ◀Green Point – Mark B
- Coverage Area – illustrates applied area and overlap
  - ◀Blue – one application
  - ◀Red – two or more applications
  - ◀User Selected – Application Map and Target Rate Map applied areas show colored bars relative to selected color range and map selection.

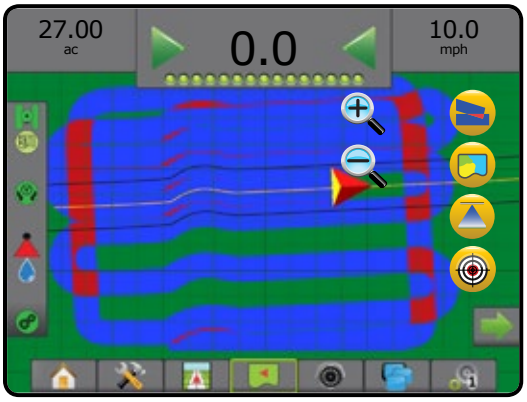
Navigation and Guidance Options Tab



Screen Options Tab



Mapping Options Tab



RealView Guidance

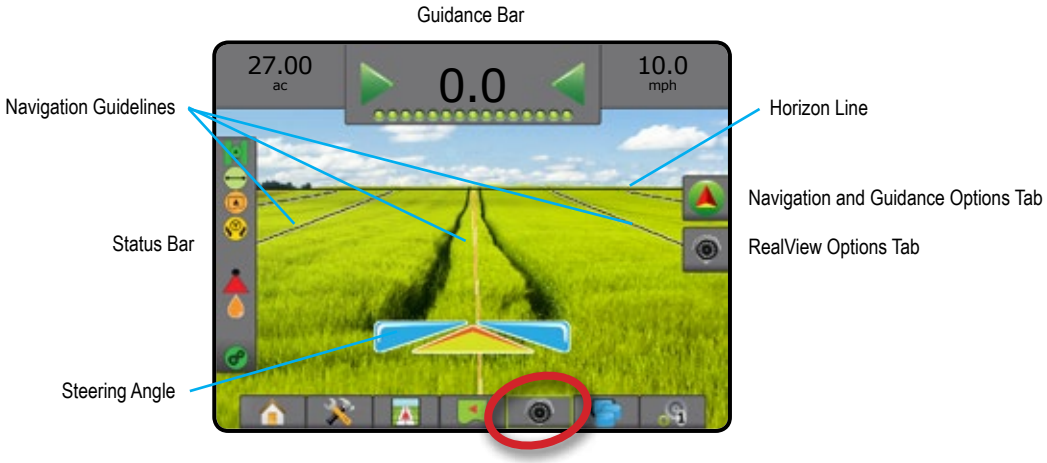
RealView Guidance allows live video input to be displayed instead of a computer-generated image. From this screen all setup and navigation options can be accessed via the tabs on the right side of the screen. To adjust the camera view [reverse, upside down], go to Setup-> Configuration-> Video.

- ► Single Camera – a single camera is directly attached to the console
- ► Video Selection Module – if a Video Selection Module (VSM) is installed on the system, two (2) video options are available:
  - One Camera View – one of up to eight camera inputs can be selected to change the view of the video input.
  - Split Camera View – one of two sets of four camera inputs (A/B/C/D or E/F/G/H) can be selected to divide the screen into four separate video feeds.

To access the RealView screen:

1. Press REALVIEW GUIDANCE tab .

Figure 7-17: RealView Guidance

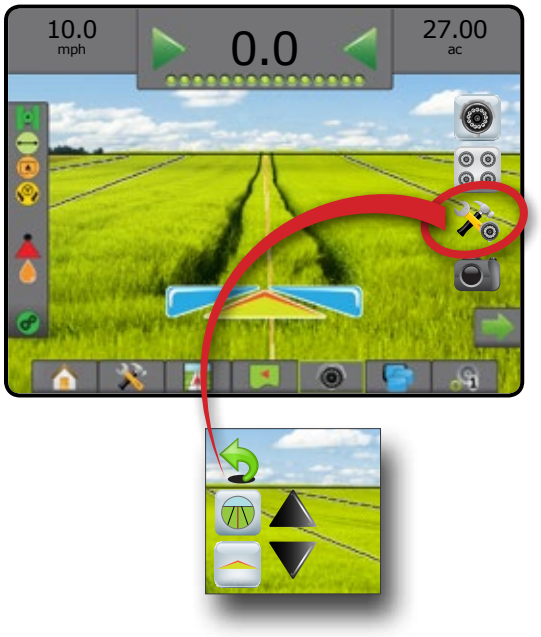


On Screen Guidance

- Guidelines
  - ◄Orange – active guidance line
  - ◄Black (multiple) – adjacent guidance lines
  - ◄Horizontal Black Line – adjustable horizon line

Navigation and Guidance Options Tab

RealView Options Tab (with VSM)

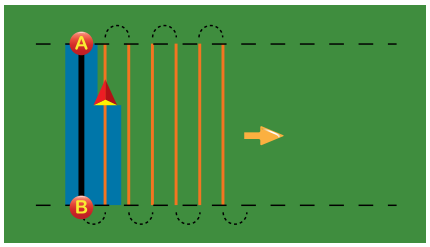


GUIDANCE MODES

Straight AB Guidance

Straight AB Guidance provides straight-line guidance based on A and B reference points. The original A and B points are used to calculate all other parallel guidelines.

NOTE: Offset to adjacent guidelines will be calculated using the guidance width: see "Configuration" in the System Setup chapter.



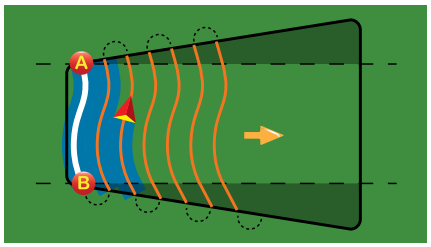
Curved AB Guidance

Curved AB Guidance provides guidance along curved lines based on an initial AB reference line. This initial baseline is used to calculate all other guidelines.

NOTE: Curved guidance is recommended not to exceed 30° within the AB guideline.

Offset to adjacent guidelines will be calculated using the guidance width: see "Configuration" in the System Setup chapter.

HINT: While working in a bounded area, the guidance pattern extending beyond the established AB points will be straight-line guidance.

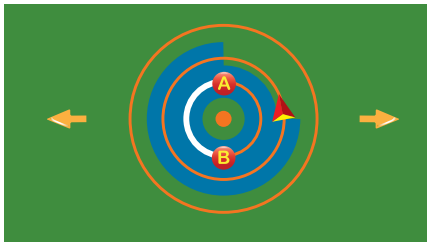


Circle Pivot Guidance

Circle Pivot Guidance provides guidance around a central location that radiates inward or outward based on an initial AB reference line. This initial baseline is used to calculate all other guidelines.

It is used for product application in a center pivot field while being guided along a circular guideline that matches a center pivot irrigation system radius.

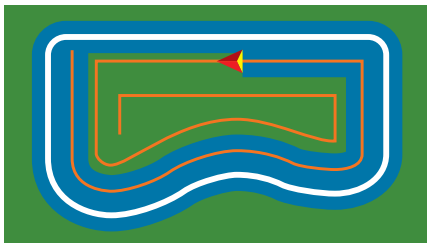
NOTE: Offset to adjacent guidelines will be calculated using the guidance width: see "Configuration" in the System Setup chapter.



Last Pass Guidance

Last Pass Guidance offers true last-pass navigation. The console will automatically detect the nearest applied area and establish parallel guidelines based on that area.

NOTE: If a boundary is established but no application occurred during the boundary process, guidance will not initiate.

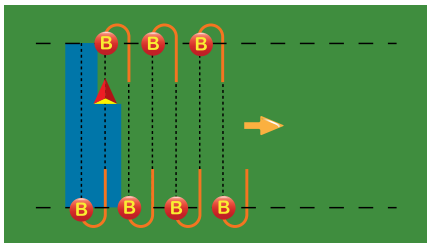


NextRow Guidance

NextRow Guidance indicates where the NextRow is located, and provides guidance at row ends to the next adjacent row. When the operator marks the end of the row and begins turning to the next row, a Straight AB guidance line is provided in the next row. When the vehicle is in the NextRow, guidance is turned off.

NOTE: Offset to NextRow will be calculated using the guidance width: see "Configuration" in the System Setup chapter.

The NextRow Guidance does not support skipping rows.



No Guidance

No Guidance turns off guidance.

NOTE: No Guidance Mode does not delete established guide lines or points from the console. To delete established/saved data from the console, see "Data Management" in the System Setup chapter.

GUIDELINES

AB guidelines, Azimuth guidelines, next pass guidelines, and NextRow guidelines are each available depending on the current guidance mode. Up to 25 established guidelines can be stored in the console per job. Switching from one guidance mode to another will change the current available guidelines.

Multiple guidelines can be created in each guidance mode. If more than one guideline is saved in a single guidance mode, the Next Guideline feature will become available. By pressing the Next Guideline option, the vehicle will be directed to the next guideline saved in the console.

A user can duplicate and edit jobs for reuse of boundaries and guidelines for different applications over the same field using Fieldware Link or the Data -> Job Data -> Manage option.

Curved Lookahead Guideline

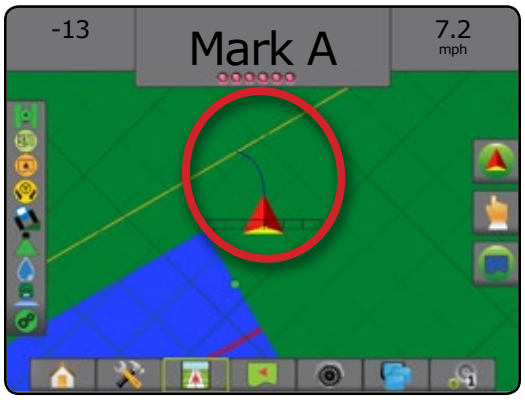
The curved lookahead guideline provides an indication of where the current steering will take the vehicle using a 'pointer' as guidance. The Curved Lookahead option is available in all guidance modes.

To activate the Curved Lookahead guideline:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Select CURVED LOOKAHEAD icon.

The pointer will be visible on the navigation screen.

Figure 7-18: Curved Lookahead



To remove the Curved Lookahead guideline:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Select CURVED LOOKAHEAD icon.

Marking A and B Points

To establish an AB guideline:

1. Drive to the desired location of Point A.
2. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
3. **While the vehicle is in motion,** press MARK A icon.
4. Drive to the desired location of Point B.
5. Press MARK B icon to establish the AB line.
6. "Would you like to name this guideline?"

   Press:

   - Yes – to enter a name and save the guideline in the console
   - No – to automatically generate a name and save the guideline in the console

The console will begin providing navigation information.

NOTE: The MARK B Icon is not available for selection (grayed out) until the minimum distance is travelled (9.84 feet / 3.0 meters in Straight or Curved guidance, 164.04 feet / 50.0 meters in Circle Pivot guidance).

NOTE: It is not necessary to drive the entire circumference of the center pivot in order to initiate Circle Pivot Guidance.

Use CANCEL MARK icon to cancel the Mark A command and revert to the previous guideline (when established).

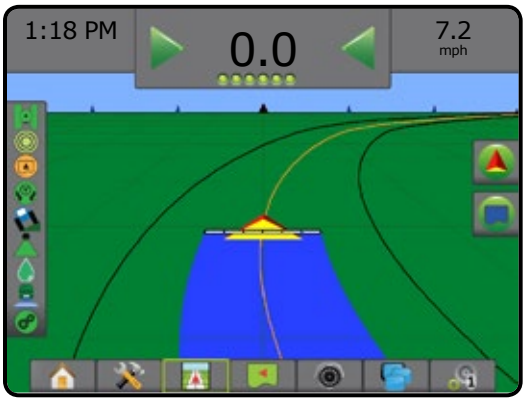
Figure 7-19: Mark A Point

Figure 7-20: Mark B Point

Figure 7-21: Save Guideline

1:14 PM
0.0
7.2
mph
Would you like to name this guideline?
Yes
No
Enter Name
1 2 3 4 5 6 7 8 9 0 <---
q w e r t y u i o p
Caps a s d f g h j k l
Alt z x c v b n m Shift

Figure 7-22: Follow Guidance



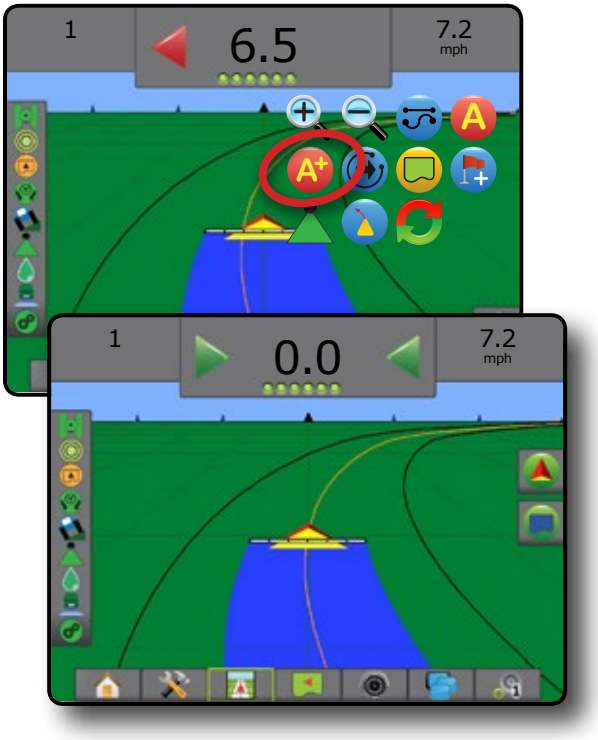
A+ Nudge Feature

The A+ Nudge feature allows the current guideline to be shifted to the vehicle's current location.

To adjust the guideline:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press A+ NUDGE icon.

Figure 7-23: A+ Nudge



Next Guideline Feature

If more than one guideline is saved, the Next Guideline feature will become available. By pressing the Next Guideline option, the vehicle will be directed to the next guideline saved in the console.

To change to other available guidelines:

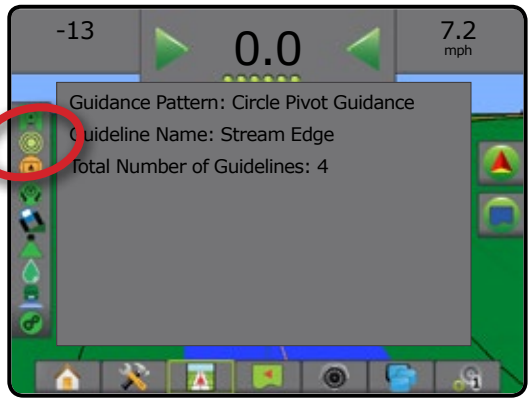
1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press NEXT GUIDELINE icon.

Toggle between all guidelines by pressing the NEXT GUIDELINE icon again.

Figure 7-24: Next Guideline

To view which guideline is active, press the Guidance Mode icon on the Status Bar.

Figure 7-25: View Which Guideline is Active



Last Pass Guidelines

Last Pass Guidance offers true last-pass navigation. The console will automatically detect the nearest applied area and establish parallel guideline based on that area.

To activate Last Pass guidelines:

1. Drive to a desired location to apply the first pass.
2. Travel next to the applied area.
3. The console will begin providing navigation information.

NOTE: If a boundary is established but no application occurred during the boundary process, guidance will not initiate.

Figure 7-26: Apply First Pass

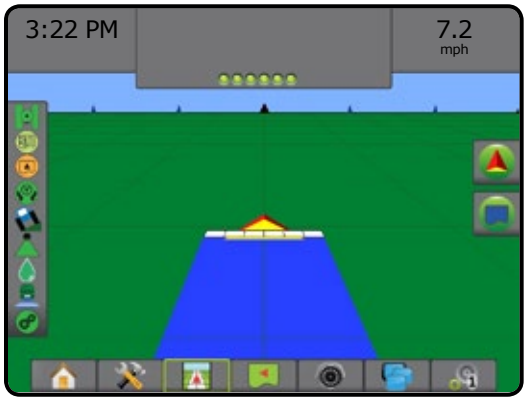


Figure 7-27: Follow Guidance

NextRow Guidelines

NextRow Guidance indicates where the next row is located based on the programmed guidance width, and provides guidance at user-marked row ends to the next adjacent row. When the operator signals the end of the row, a Straight AB line will be established in the current row and guidance provided to the NextRow. When the vehicle is in the NextRow, guidance is turned off.

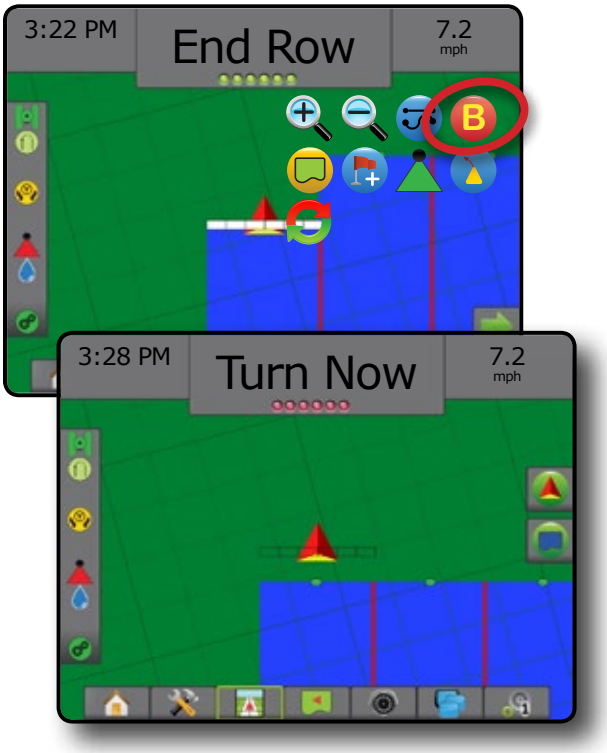
NOTE: Offset to NextRow will be calculated using the guidance width: see "Configuration" in the System Setup chapter.

To activate NextRow guidelines:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. At the end of a row (while driving a straight line) press MARK B icon.
   ◄The end of the row will be marked with a green point.
3. Turn toward the next row.
4. Based on that direction turned, guidance will be provided for the next adjacent row.
   ◄When the vehicle is in the row, the guideline is removed.
5. Repeat at the end of the next row.

NOTE: The NextRow Guidance feature does not support skipping rows.

Figure 7-28: Mark End of Row



Azimuth Degree

An azimuth is defined as a horizontal angle measured clockwise from a north baseline. When using an azimuth, the point from which the azimuth originates is the center of an imaginary circle. North = 0°, East = 90°, South = 180°, West = 270°.

An azimuth degree can be entered to determine the exact location of the vehicle. When a navigation mode is selected, the azimuth degree can be entered.

To establish an Azimuth Degree guideline:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press AZIMUTH icon to enter azimuth degree.
3. Use the entry screen to establish the azimuth degree.
4. "Would you like to name this guideline?"

   Press:

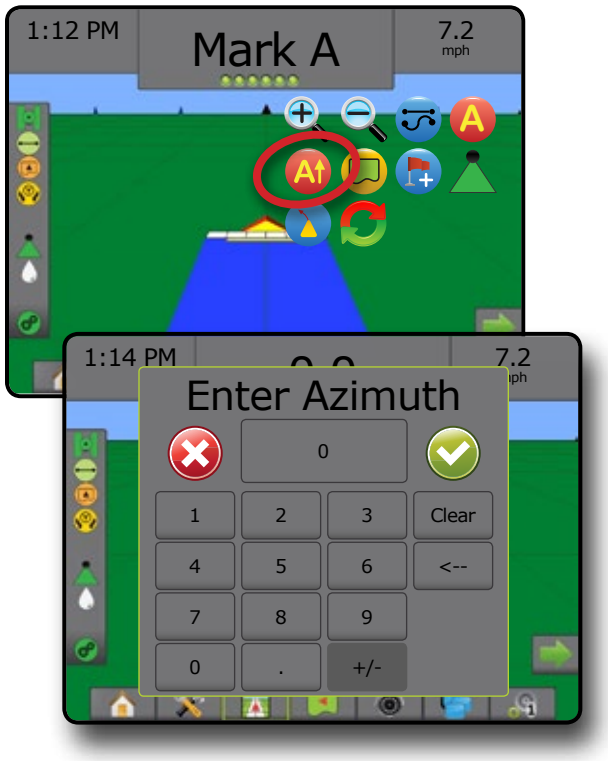
   ► Yes – to enter a name and save the guideline

   ► No – to automatically generate a name

The console will begin providing navigation information.

To establish additional azimuth guidelines, follow the same steps as the initial azimuth guideline.

Figure 7-29: Azimuth Guidance



APPLICATION BOUNDARY

Application boundaries establish areas where product is and is not applied while using ABSC or BoomPilot. Boundaries can be established in all guidance modes. One exterior boundary and up to five (5) interior boundaries can be stored at one time.

Using Data -> Job Data -> Manage or with Fieldware Link, a user can duplicate and edit jobs for reuse of boundaries and guidelines for different applications over the same field.

To establish an exterior application boundary:

1. Drive to a desired location at the perimeter of the application area.
2. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
3. While the vehicle is in motion, press BOUNDARY icon.
4. Travel the perimeter of the application area.
5. Finish the boundary:
   - ▶ Travel to within one swath width of the starting point. The boundary will close automatically (the white guideline will turn black).
   - ▶ Press BOUNDARY FINISH icon. A straight line will complete the boundary between your current location and the starting point.
6. Press:
   - ▶ Save – to save the boundary
   - ▶ Delete – to delete the boundary

NOTE: On the external or initial boundary, the BOUNDARY FINISH icon is not available for selection (grayed out) until the minimum distance is travelled (five times the swath width).

If mapping a boundary with one or more sections folded in and turned off, it is necessary to maintain this section configuration for the duration of the boundary pass. Any changes made to the number of sections turned on, and therefore the width of the machine after the boundary mapping process has started, will result in the application mapping the boundary at the outer edge of all the programed sections – not necessarily those turned on at any given time during the boundary pass.

When mapping a boundary with some sections turned off, it is necessary to turn BoomPilot to Manual mode and turn ON the master and section switches for all sections that will be used during the boundary pass. Once the boundary pass is complete the sections switches can be turned OFF, Master switch remains ON, BoomPilot can be returned to Automatic mode and automatic section control can then be used.

NOTE: If a boundary is mapped with some sections folded as described above, it may be necessary to use the A+ NUDGE icon on the guideline over to the correct position for subsequent passes in the field.

Figure 7-30: Boundary in Progress

Figure 7-31: Finish Boundary – Straight Line to Starting Point

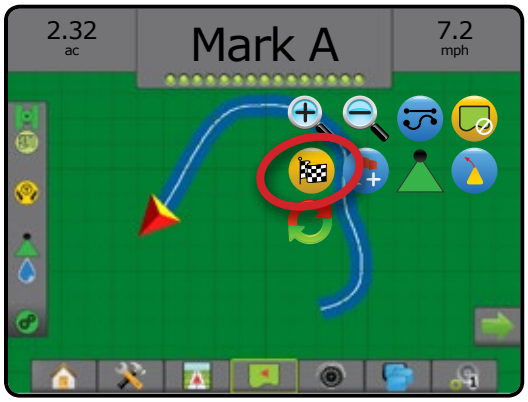


Figure 7-32: Finish Boundary – Travel to Starting Point

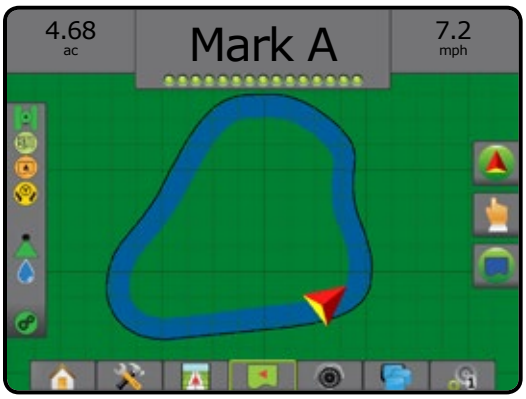


Figure 7-33: Save Boundary

Use CANCEL BOUNDARY icon to cancel the new field boundary process and revert to the previous boundary (when established).

To establish one or more interior boundaries, follow the same steps as the initial boundary.

Figure 7-34: Add Interior Boundary

While creating an external or initial boundary, the boundary line will be to the exterior of the outermost active section. While creating an interior or additional boundary, the boundary line will be to the interior of the innermost active section.

If no sections are active, the boundary will be marked to the end of the outermost section.

Use DELETE BOUNDARY icon to delete all field boundaries for the current job.

Figure 7-35: Delete Boundary

In correspondence to your current location, the IN BOUNDARY icon or OUT BOUNDARY icon is displayed on the Status Bar once the boundary is established.

Figure 7-36: Boundary on Status Bar

RETURN TO POINT

Return to Point provides guidance back to an established point in Vehicle View and Field View. In Vehicle View an arrow directs the vehicle back to the established point. In Field View only the point is displayed.

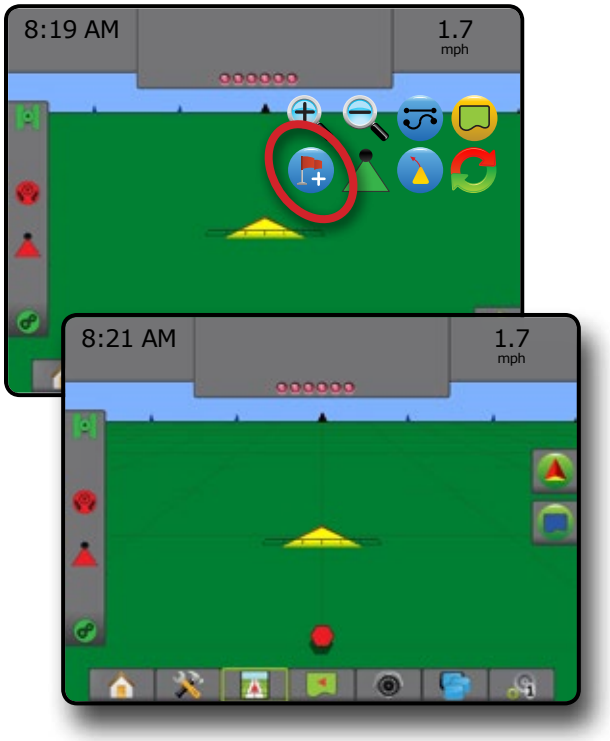
A return point is job-specific, and will remain active in the active job until canceled.

Marking a Return Point

To mark a return point:

1. Drive to the desired location of Return Point .
2. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
3. Press ADD POINT icon .

Figure 7-37: Return Point Established – Vehicle View



Delete the Return Point

To delete the established return point:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press DELETE POINT icon .

Delete Point icon is not available while return to point guidance is active.

Figure 7-38: Delete Point

Guidance to a Return Point

To show distance and guidance to the established return point:

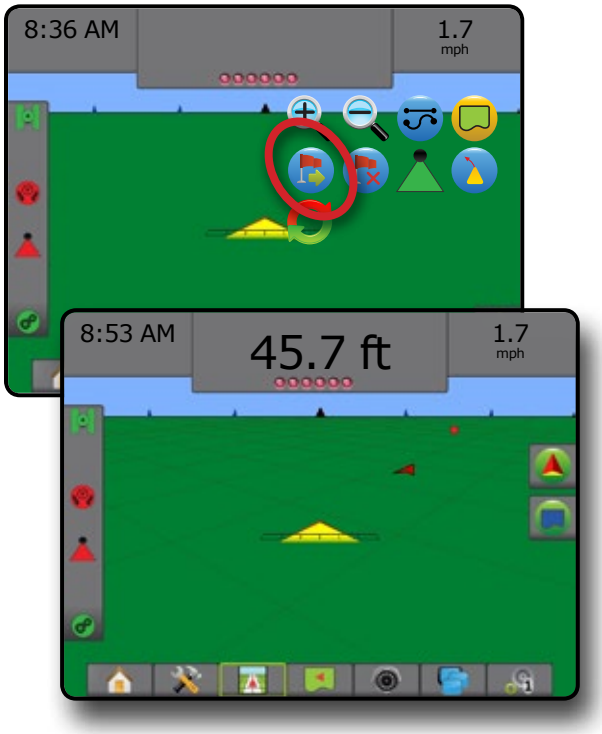
1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press the RETURN TO POINT GUIDANCE icon .

The console will begin providing the distance information on the Guidance Bar from the vehicle to the established point.

Use CANCEL RETURN TO POINT GUIDANCE icon to hide distance and guidance to the established point.

Guidance cannot be calculated when "?" appears in the guidance bar.

Figure 7-39: Return to Point Guidance – Vehicle View



BOOMPILOT

Depending on if there is a section control system present and when present what kind of section control is being used as well as what options are enabled, there are multiple options for BoomPilot section control.

This section includes setup options for these configurations:

- ▶ No Section Control Module
  - Console Only
  - With Optional Work On/Off Switch
- ▶ ISOBUS Sprayer
  - Console and ECU Only
  - With Switchbox
  - With an ISOBUS Implement Status Module (ISO ISM)
- ▶ ISOBUS Spreader
  - Console Only
  - With Optional Spreader On/Off Switch
- ▶ With TeeJet Section Control Module and Switchbox or ISM
- ▶ With TeeJet Section Control Module

Figure 7-40: BoomPilot Icon and Status Bar Indicator

No Section Control Module

If a section control system is not present, the BoomPilot Icon or an optional work on/off switch is used to turn the single section on or off. Only one section width will be illustrated and the status bar will have no icon.

NOTE: If an ISOBUS controller, SmartCable, Section Driver Module (SDM), or Switch Function Module (SFM) is present, please refer to the following sections for more information.

NOTE: The BOOMPILOT icon is gray when GNSS is unavailable.

Console Only

The BoomPilot Icon is used to turn the section on or off.

To set configuration settings:

1. Press SYSTEM SETUP bottom tab.
2. Press CONFIGURATION side tab.
3. Press **Implement**.
4. Set "BoomPilot Icon" to **Enable**.

NOTE: BoomPilot Start Mode setting will make no difference in the function of this option.

To switch application off or on using the console:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon.
3. Press BOOMPILOT icon to toggle the section on or off.

With Optional Work On/Off Switch

The work on/off switch is used to turn the section on or off.

To set configuration settings:

1. Press SYSTEM SETUP bottom tab.
2. Press CONFIGURATION side tab.
3. Press **Implement**.
4. Set "BoomPilot Icon" to **Disable**.

NOTE: BoomPilot Start Mode setting will make no difference in the function of this option.

In areas where application is desired:

1. Turn work on/off switch to the "on" position.

In areas where application is not desired:

1. Turn work on/off switch to the "off" position.

Using the Console

To control the section using the BoomPilot Icon while there is a work on/off switch on the system:

1. Set "BoomPilot Icon" to **Enable**.
2. Work on/off switch should remain in the "off" position.
3. Press BOOMPILOT icon to toggle the section on or off.

ISOBUS Sprayer

If an ISOBUS Electronic Control Unit (ECU) is present, the BoomPilot Icon or an optional switchbox can be used to turn the boom on or off. The BoomPilot Icon may also be used to set automatic section control to manual or automatic. The number of section widths displayed will depend on the ISOBUS ECU configuration.

NOTE: The BOOMPILOT icon is gray when GNSS is unavailable.

Console and ECU Only

All ISOBUS rate control configurations should be setup before starting BoomPilot. Automatic or Manual Regulation Mode should not affect the following options.

To set configuration settings:

1. Press SYSTEM SETUP bottom tab.
2. Press CONFIGURATION side tab.
3. Press **Implement**.
4. Set "BoomPilot Icon" to **Enable**.

NOTE: BoomPilot Start Mode setting will make no difference in the function of this option.

To switch application off or on automatically:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon.

◄Automatic – status bar icon will change to green

NOTE: Application can be manually controlled while in Automatic BoomPilot mode using the Start/Stop Key on the ISOBUS Operation screen.

To switch application off or on manually:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon.

◄Automatic – status bar icon will change to red

3. Press ISOBUS UNIVERSAL TERMINAL bottom tab.
4. Go to the Operation Screen
5. Use the START/STOP key.

With Switchbox

All ISOBUS rate control configurations should be setup before starting BoomPilot. Automatic or Manual Regulation Mode should not affect the following options.

To set configuration settings:

1. Press SYSTEM SETUP bottom tab.
2. Press CONFIGURATION side tab.
3. Press **Implement**.
4. Set "BoomPilot Icon" to **Disable**.

NOTE: BoomPilot Start Mode setting will make no difference in the function of this option.

To switch application off or on automatically:

1. Switchbox Master Switch and section switches must be in the "On" positions.
1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon.

◄Automatic – status bar icon will change to green

NOTE: Application can be manually controlled while in Automatic BoomPilot mode using the Master Switch or individual section switches.

Caution: While in a previously applied area, manually changing a section switch will change BoomPilot to manual mode. Therefore, if a switch remained in the on position after exiting the applied area, it would remain off.

To switch application off or on manually:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon.

◄Manual – status bar icon will change to red

3. Turn Master Switch or individual section switches On/Off.

With an ISOBUS Implement Status Module (ISO ISM)

All ISOBUS rate control configurations should be setup before starting BoomPilot. Regulation Mode should be “Manual”.

To set configuration settings:

1. Press SYSTEM SETUP bottom tab .
2. Press CONFIGURATION side tab .
3. Press **Implement**.
4. Set “BoomPilot Icon” to **Enable**.

NOTE: BoomPilot Start Mode setting will make no difference in the function of this option.

To switch application off or on automatically:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon .

   ◄Automatic – status bar icon will change to green

NOTE: Application can be manually controlled while in Automatic BoomPilot mode using the switches connected to the ISO ISM.

To switch application off or on manually:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon .

   ◄Automatic – status bar icon will change to red
3. Turn Master Switch or individual section switches On/Off.

ISOBUS Spreader

If an ISOBUS Electronic Control Unit (ECU) is present, the BoomPilot Icon or an optional remote master switch can be used to turn the application on or off. The BoomPilot Icon may also be used to set automatic section control to manual or automatic .

NOTE: The BOOMPILOT icon is gray when GNSS is unavailable.

Console Only

All ISOBUS rate control configurations should be setup before starting BoomPilot. Regulation Mode should be “Manual”.

To set configuration settings:

1. Press SYSTEM SETUP bottom tab .
2. Press CONFIGURATION side tab .
3. Press **Implement**.
4. Set “BoomPilot Icon” to **Enable**.

NOTE: BoomPilot Start Mode setting will make no difference in the function of this option.

To switch application off or on automatically:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon .

   ◄Automatic – status bar icon will change to green
3. Press the ISOBUS UNIVERSAL TERMINAL bottom tab .
4. Go to the Operation Screen.
5. Use the START/STOP key .

NOTE: Application can be manually controlled while in Automatic BoomPilot mode using the Start/Stop key on the ISOBUS Operation screen.

To switch application off or on manually:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press BOOMPILOT icon .

   ◄Automatic – status bar icon will change to red
3. Press ISOBUS UNIVERSAL TERMINAL bottom tab .
4. Go to the Operation Screen
5. Use the START/STOP key .

With Optional Spreader On/Off Switch

All ISOBUS rate control configurations should be setup before starting BoomPilot. Automatic or Manual Regulation Mode should not affect the following options.

To set configuration settings:

1. Press the ISOBUS UNIVERSAL TERMINAL bottom tab .
2. Enable the Remote Spread Switch.
3. Press SYSTEM SETUP bottom tab .
4. Press CONFIGURATION side tab .
5. Press **Implement**.
6. Set "BoomPilot Icon" to **Disable**.

NOTE: BoomPilot Start Mode setting will make no difference in the function of this option.

In areas where application is desired:

1. Turn Spreader on/off switch to the "on" position.

In areas where application is not desired:

1. Turn Spreader on/off switch to the "off" position.

With TeeJet Section Control Module and Switchbox or ISM

SmartCable, Section Driver Module (SDM) or Switch Function Module (SFM) and a switchbox or Implement Status Module (ISM) is present.

NOTE: The BOOMPILOT icon is gray when GNSS is unavailable. BoomPilot status bar icon will be off/manual .

To switch application off or on automatically:

1. Automatic/Manual Boom Switch must be in the "Auto" position.
   ◄Automatic – status bar icon will be green]
2. Master Switch and section switches must be in the "On" position.

NOTE: Application can be manually controlled while in Automatic BoomPilot mode using the switches on the switchbox or switches connected to the ISO ISM.

To switch application off or on manually:

1. Automatic/Manual Boom Switch must be in the "Manual" position.
   ◄Manual – status bar icon will be red
2. Use the switches on the switchbox or switches connected to the ISO ISM.

With TeeJet Section Control Module

SmartCable, Section Driver Module (SDM) or Switch Function Module (SFM) is present BoomPilot is used to set automatic section control to off/manual , automatic , or spot application

NOTE: The BOOMPILOT icon is gray when GNSS is unavailable. BoomPilot status bar icon will be off/manual .

To switch application off or on automatically:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press and release BOOMPILOT icon .
   ◄Enable – status bar icon will change to green
   ◄Disable – status bar icon will change to red

To apply a spot application:

1. Press NAVIGATION AND GUIDANCE OPTIONS tab to display navigation options.
2. Press and hold BOOMPILOT icon over area to be applied.
   ◄Spot Application– status bar icon will change to yellow

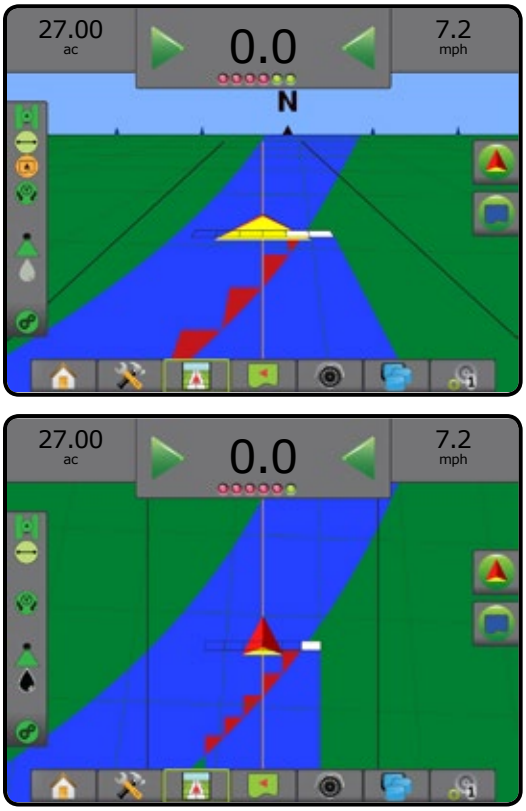
ZOOM IN/OUT

Vehicle View

Zoom In/Out & Perspective is used to adjust the vehicle's view or perspective to the horizon from vehicle view to bird's-eye view.

- Zoom in will adjust view to vehicle view displaying a compass on the horizon
- Zoom out will adjust view to bird's-eye view

Figure 7-41: Zoom In to Zoom Out



Field View

Zoom In/Out is used to adjust the map's visible area.

- Zoom in will decrease the amount of map area visible.
- Zoom out will increase the amount of map area visible.

PAN MODE

While in Field View Guidance, the Pan Mode allows the screen to be positioned manually as desired. The off-center position on the screen will be retained until the World icon is pressed.

To enter Pan Mode and pan across the screen:

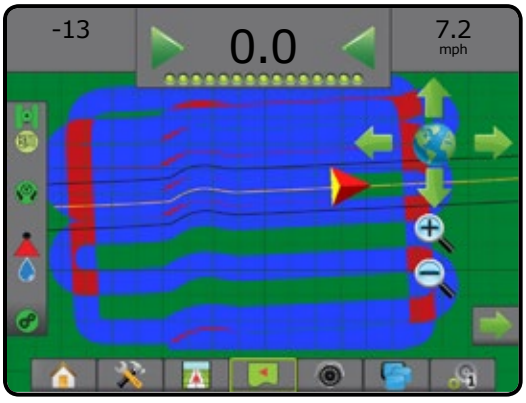
1. Press SCREEN OPTIONS tab.
2. Press:
   - ► AND DRAG SCREEN in the corresponding direction to move the view on screen.
   - ► ARROWS in the corresponding direction to move the view on screen (down, left, right, up).
   - ► WORLD VIEW icon to center vehicle on screen and extend the screen view to the widest area available.

NOTE: Press & hold ARROWS to quickly adjust settings.

To close Pan Mode options:

1. Press CLOSE OPTIONS tab.

Figure 7-42: Pan Mode



APPLICATION MAPPING

GNSS-based product application mapping is available in Vehicle View or Field View, in any guidance mode, when a rate controller is on the system. Mapping can record areas covered by the implement (Coverage) or how much product has been applied and where (Application), and can direct single- and variable-rate product application (Preset Target Rate and Prescription, respectively).

NOTE: Before using mapping, set or verify product mapping options under Configuration -> Product. Refer to "Product" in the System Setup chapter.

NOTE: For more information, see the Rate Control chapter of this manual.

To access application mapping:

1. Press VEHICLE VIEW GUIDANCE bottom tab or FIELD VIEW GUIDANCE bottom tab .
2. Press MAPPING OPTIONS tab to display mapping options.
3. Select one or more:
   - ▶ Coverage Map – shows areas covered by the implement, regardless of whether product was applied
   - ▶ Prescription Map – pre-loaded map that provides information to the rate controller for use in applying product
   - ▶ Application Map – shows how much product has been applied and where, using color to indicate level in proportion to preset or automatically set maximum and minimum levels
   - ▶ Target Rate Map – shows the application rate that the rate controller attempted to achieve at each location

NOTE: Application Map and Target Rate Map cannot be selected simultaneously.

Figure 7-43: Coverage Map

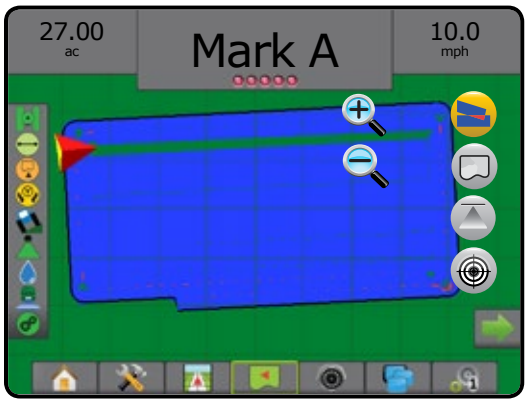


Figure 7-44: Prescription Map

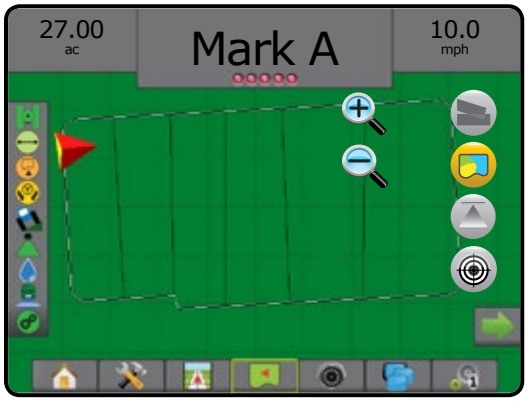


Figure 7-45: Application Map

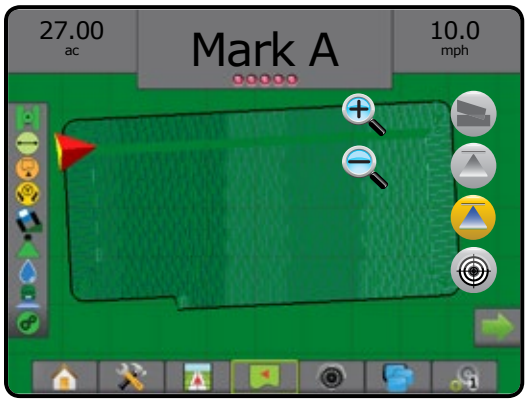
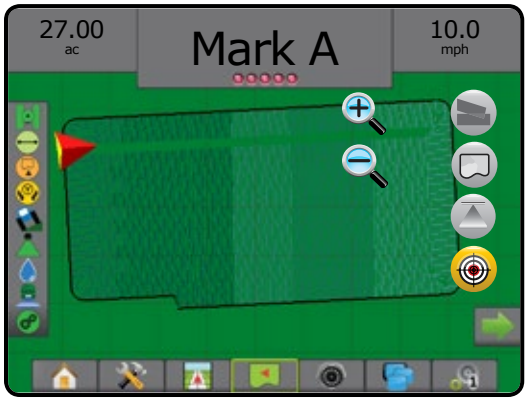


Figure 7-46: Target Rate Map



REALVIEW SPECIFIC OPTIONS

RealView Guidance allows live video input to be displayed instead of a computer-generated image. RealView setup options accesses additional guidance tools including guidance over video and a steering angle indicator.

- ▶ Single Camera – a single camera is directly attached to the console
- ▶ Video Selection Module – if a Video Selection Module (VSM) is installed on the system, two (2) video options are available:
  - One Camera View – one of up to eight camera inputs can be selected to change the view of the video input.
  - Split Camera View – one of two sets of four camera inputs (A/B/C/D or E/F/G/H) can be selected to divide the screen into four separate video feeds.

To adjust the camera view [reverse, upside down], go to Setup-> Configuration-> Video.

To access the RealView options:

1. Press REALVIEW GUIDANCE bottom tab .
2. Press REALVIEW OPTIONS tab to display RealView options.
3. Select from:
   - ▶ Single Camera View [VSM only] – one (1) of up to eight (8) camera inputs can be selected to change the view of the video input
   - ▶ Split Camera View [VSM only] – one (1) of two (2) sets of four (4) camera inputs (A/B/C/D or E/F/G/H) can be selected to divide the screen into four separate video feeds
   - ▶ RealView Guidance Options – accesses additional guidance tools including guidance over video and a steering angle indicator
   - ▶ RealView Camera Image Capture – saves a still photo of the current view on the screen to a USB drive

Figure 7-47: RealView Guidance

RealView Guidance Options

RealView setup options accesses additional guidance tools including guidance over video and a steering angle indicator.

1. Press REALVIEW OPTIONS tab to display RealView options.
2. Press REALVIEW GUIDANCE OPTIONS icon .
3. Select from:
   - ▶ Guidance Over Video – places three-dimensional guidelines over the video feed for navigation assistance
   - ▶ Steering Angle Indicator – displays the direction in which the steering wheel needs to be adjusted
   - ▶ Horizon Line Adjustment ▲ ▼ – adjusts the on-screen horizon line up or down

Figure 7-48: RealView Setup Options

Camera Snapshot

RealView Camera Snapshot saves a still photo of the current view on the screen to a USB drive.

1. Insert USB drive.
2. Press REALVIEW OPTIONS tab to display RealView options.
3. Press CAMERA SNAPSHOT icon.

Figure 7-49: RealView Camera Full Screen Video View

VSM Camera Options

If a Video Selection Module (VSM) is installed on the system, two (2) video options are available:

1. Press REALVIEW OPTIONS tab to display RealView options.
2. Select from:
   - ► Single Camera View – one (1) of up to eight (8) camera inputs can be selected to change the view of the video input
   - ► Split Camera View – one (1) of two (2) sets of four (4) camera inputs (A/B/C/D or E/F/G/H) can be selected to divide the screen into four separate video feeds

Figure 7-50: Single Camera Selection with VSM

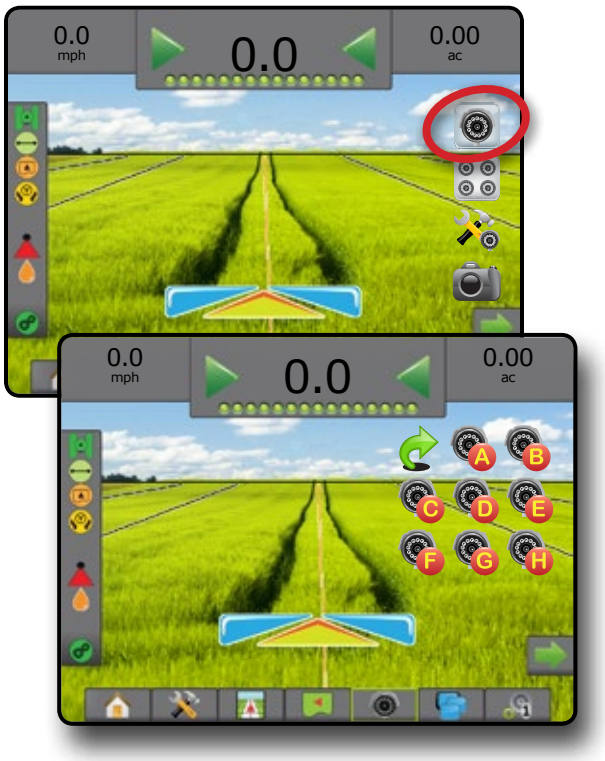
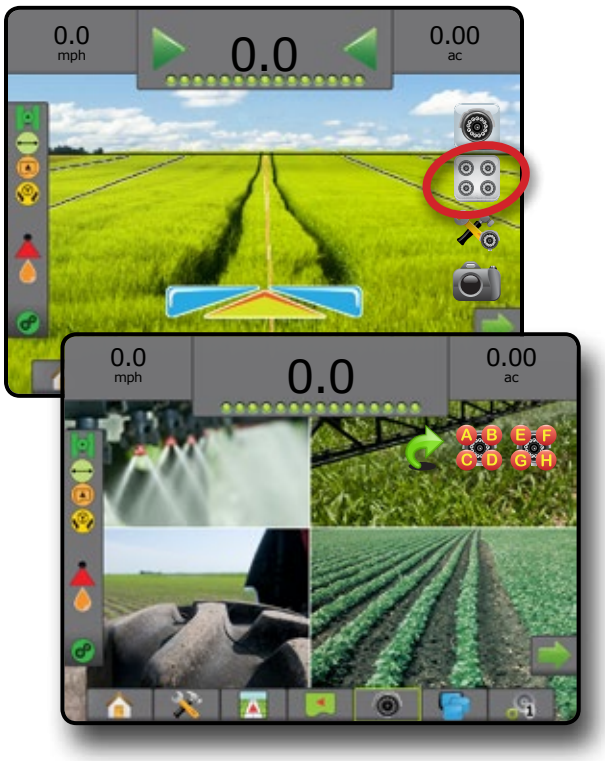


Figure 7-51: Select Split View with VSM



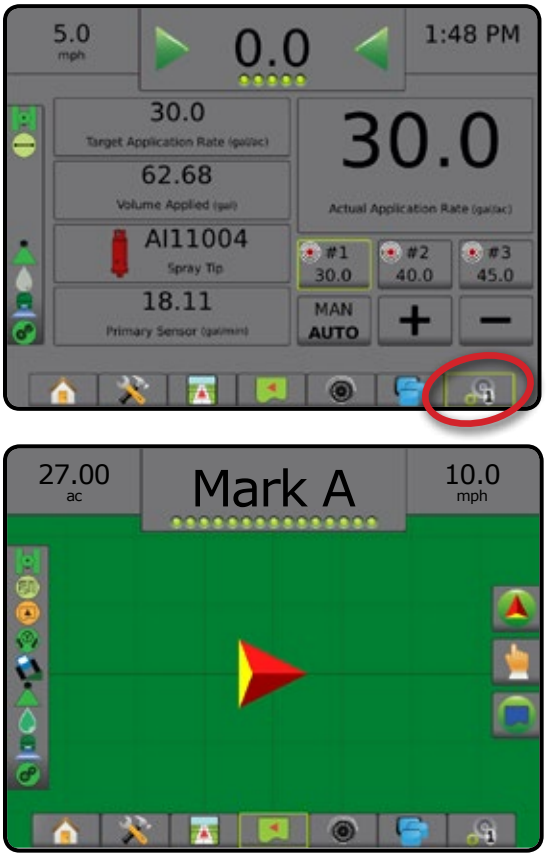
CHAPTER 8 – RATE CONTROL

The Aeros 9040 provides two options for rate control.

- ISOBUS Universal Terminal (UT) – gives access to an ISOBUS Electronic Control Unit (ECU) options and operation. This provides crop sprayer or spreader control when integrated into the implement of either capability.
  - Easy navigation menu and data-rich display
  - Provides basic or variable rate control
  - Add additional ISOBUS ECUs as your needs change
- TeeJet Dual Control Module – integrated rate control with easy setup and control
  - Application control built on field proven control module
  - Capability includes single product liquid or granular applications with servo or PWM control methods
  - Includes switchbox design or the option to integrate with existing console or joystick-mounted switches
  - Rate Control screen shows compete application details; key application information like rate and volume are viewable on guidance screen as well

Figure 8-1: ISOBUS

Figure 8-2: TeeJet Dual Control Module



ISOBUS Rate Control

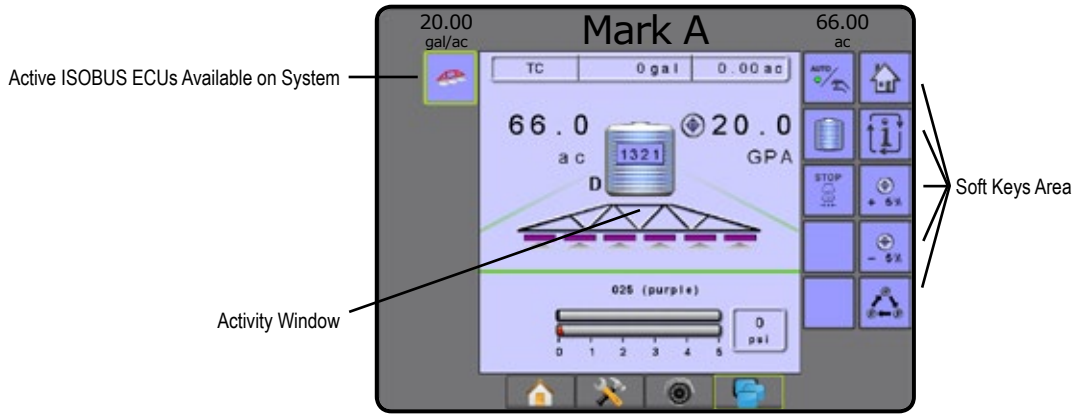
Universal Terminal Overview

The Universal Terminal (UT) gives access to the ISOBUS ECU settings and operation.

NOTE: For detailed setup instructions, refer to the specific ISOBUS user manual for the connected ECU.

1. Press UNIVERSAL TERMINAL bottom tab .

Figure 8-3: Universal Terminal Overview



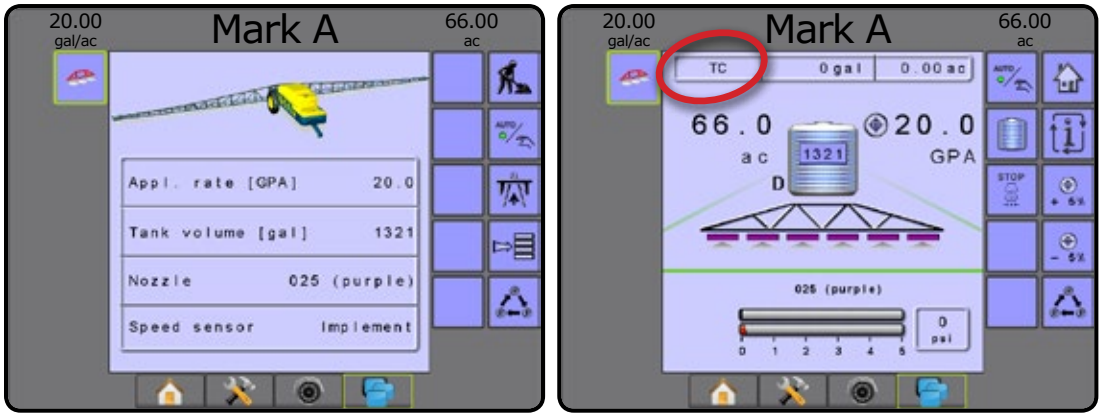
Ready for Operation

Upon starting up the system, an ISOBUS product may take a few minutes to load all required information or object pools.

Before starting a job, check to be sure the ISOBUS ECU is ready.

- Home Screen is available
- Tack Control (TC) is active – Active Trip Count Number should show “TC”

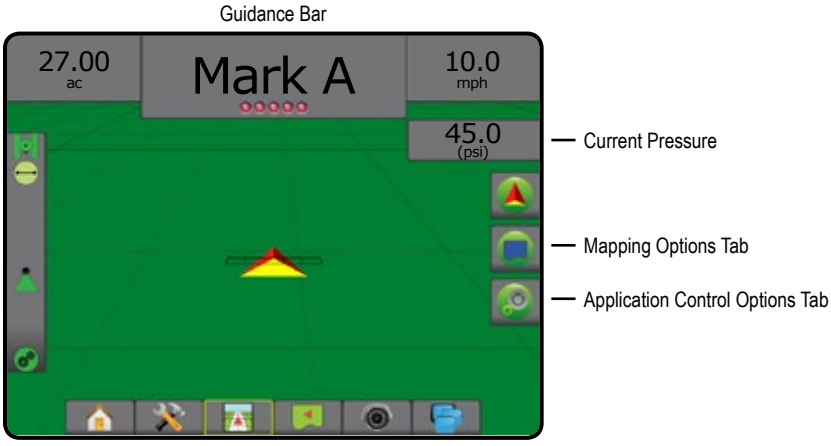
Figure 8-4: Ready for Operation



Guidance Screen Options

When a ISOBUS Electronic Control Unit (ECU) sprayer or spreader control is integrated into the implement, rate control options and mapping options are available on the Vehicle View and Field View guidance screens.

Figure 8-5: Guidance Screen Options

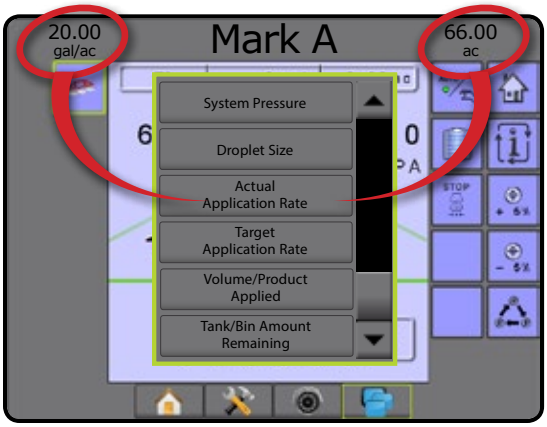


Guidance Bar

In addition to the standard Guidance bar options, the following selectable information will become available with an ISOBUS ECU:

- ▶ Actual Application Rate – displays the current application rate
- ▶ Target Application Rate – displays the target application rate
- ▶ Volume/Product Applied – displays the volume or weight of product applied
- ▶ Tank/Bin Amount Remaining – displays the volume or weight of product remaining in the tank/bin

Figure 8-6: Guidance Bar Selectable Information



Current Pressure

Displays the current pressure to the tip.

NOTE: The current pressure is also available on the ISOBUS Operation screen

Mapping

GNSS-based product application mapping is available in Vehicle View or Field View. Mapping can record areas covered by the implement (Coverage) or how much product has been applied and where (Application), and can direct single- and variable-rate product application (Preset Target Rate and Prescription, respectively).

NOTE: For more information, see "Application Mapping" in this chapter of this manual.

1. Press VEHICLE VIEW GUIDANCE bottom tab . or FIELD VIEW GUIDANCE bottom tab .
2. Press MAPPING OPTIONS tab to display mapping options.
3. Select one or more:
   - ▶ Coverage Map
   - ▶ Prescription Map
   - ▶ Application Map
   - ▶ Target Rate Map

NOTE: Application Map and Target Rate Map cannot be selected simultaneously.

Application Control

Target Rate Percentage Increase/Decrease icons increase/decrease the application target rate per the established percentage set in the Machine Operation setup screen under Application Rate Step. Automatic regulation mode will automatically adjust the application rate based on the current speed in reference to the target rate.

NOTE: The Target Rate Percentage Increase/Decrease icons do the same adjustment as the Boost/Step Percentage Increase/ Decrease Keys from the ISOBUS UT.

1. Press VEHICLE VIEW GUIDANCE bottom tab .
2. Press APPLICATION OPTIONS tab .
3. Select from:
   - ▶ Target Rate Percentage Increase/Decrease – establishes the required boost percentage step.
   - ▶ Percentage Boost and Reset – shows current boost percentage step and when pressed, zeros the boost percentage step

Figure 8-7: Target Rate Percentage Increase/Decrease

TeeJet Dual Control Module Rate Control

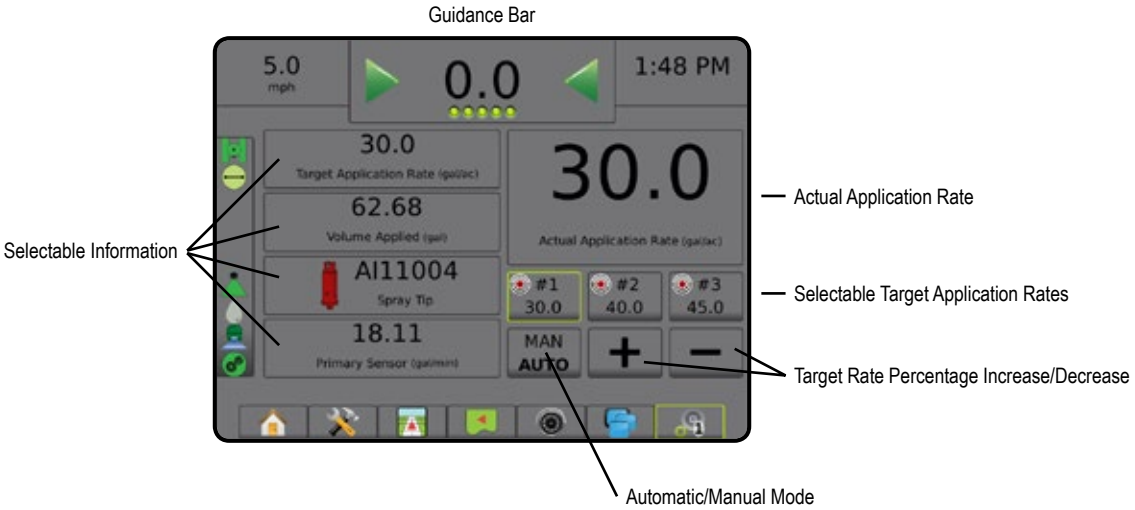
Rate Control Screen Overview

When a Dual Control Module (DCM) is integrated into the system, rate control options are easily accessible from the Rate Control screen and mapping options are available on the Vehicle View and Field View guidance screens.

NOTE: For detailed setup instructions, refer to the supplemental TeeJet Dual Control Module Rate Control guide.

1. Press RATE CONTROL bottom tab .
2. Select from:
   - ▶ Additional Guidance Bar Selectable Information
   - ▶ Rate Control Selectable Information
   - ▶ Actual Application Rate
   - ▶ Selectable Target Application Rates
   - ▶ Target Rate Percentage Increase/Decrease
   - ▶ Automatic/Manual Mode

Figure 8-8: TeeJet Dual Control Module

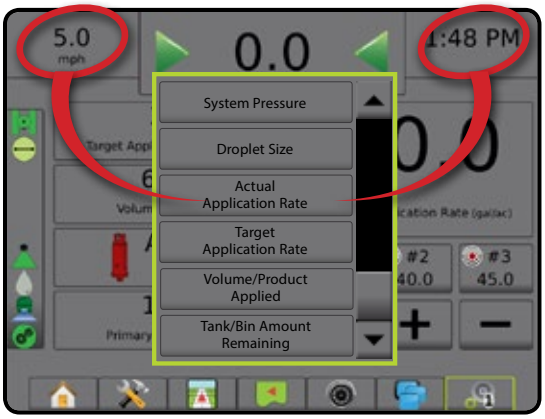


Guidance Bar

In addition to the standard Guidance bar options, the following selectable information will become available with a TeeJet DCM:

- ► Actual Application Rate – displays the current application rate
- ► Target Application Rate – displays the target application rate
- ► Volume/Product Applied – displays the volume or weight of product applied
- ► Tank/Bin Amount Remaining – displays the volume or weight of product remaining in the tank/bin

Figure 8-9: Guidance Bar Selectable Information



Application Mapping

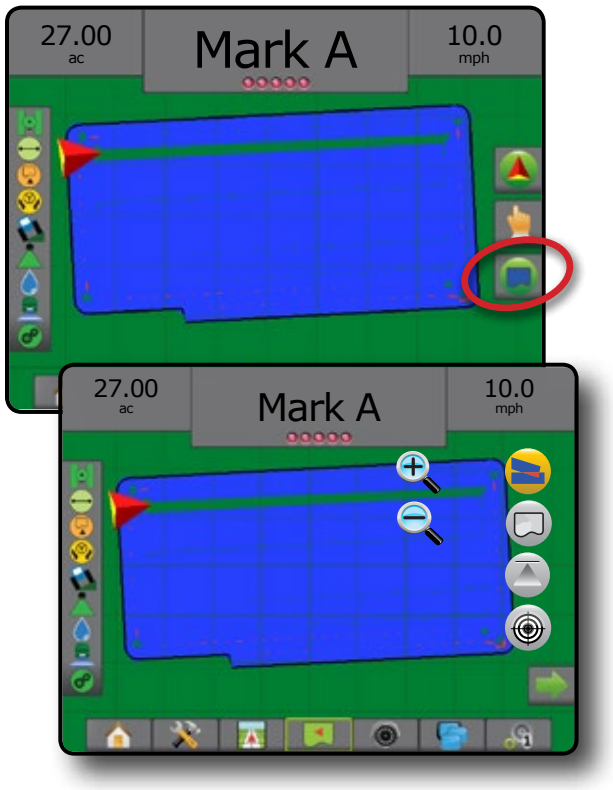
GNSS-based product application mapping is available in Vehicle View or Field View, in any guidance mode. Mapping can record areas covered by the implement (Coverage) or how much product has been applied and where (Application), and can direct single- and variable-rate product application (Preset Target Rate and Prescription, respectively).

NOTE: For more information, see "Application Mapping" in this chapter of this manual.

1. Press VEHICLE VIEW GUIDANCE bottom tab . or FIELD VIEW GUIDANCE bottom tab .
2. Press MAPPING OPTIONS tab to display mapping options.
3. Select one or more:
   - ► Coverage Map
   - ► Prescription Map
   - ► Application Map
   - ► Target Rate Map

NOTE: Application Map and Target Rate Map cannot be selected simultaneously.

Figure 8-10: Application Mapping



APPLICATION MAPPING

GNSS-based product application mapping is available in Vehicle View or Field View, in any guidance mode when a rate controller is on the system. Mapping can record areas covered by the implement (Coverage) or how much product has been applied and where (Application), and can direct single- and variable-rate product application (Preset Target Rate and Prescription, respectively).

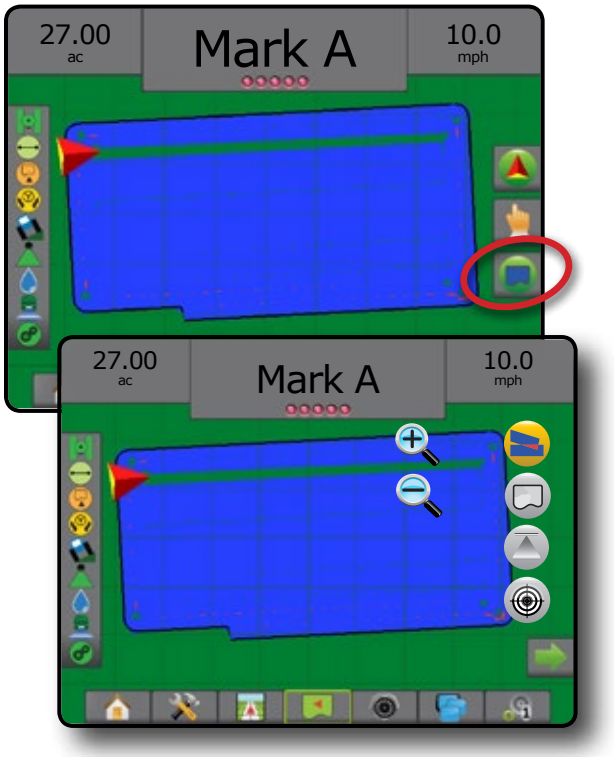
NOTE: Before using mapping, set or verify product mapping options under Configuration -> Product. Refer to "Product" in the System Setup chapter.

To access application mapping:

1. Press VEHICLE VIEW GUIDANCE bottom tab . or FIELD VIEW GUIDANCE bottom tab .
2. Press MAPPING OPTIONS tab to display mapping options.
3. Select one or more:
   - ► Coverage Map – shows areas covered by the implement, regardless of whether product was applied
   - ► Prescription Map – pre-loaded map that provides information to the rate controller for use in applying product
   - ► Application Map – shows how much product has been applied and where, using color to indicate level in proportion to preset or automatically set maximum and minimum levels
   - ► Target Rate Map – shows the application rate that the rate controller attempted to achieve at each location

NOTE: Application Map and Target Rate Map cannot be selected simultaneously.

Figure 8-11: Coverage Map



Duplicating and Transferring Maps

Maps are stored in the job data. Using Data -> Job Data -> Manage, job data containing maps can be duplicated, or transferred to Fieldware Link so the maps can be opened, viewed, edited, and printed, and transferred back to the console. See "Job Data" in the System Setup chapter.

Using Data -> Reports, reports in multiple formats can be generated that contain data and any maps from the job.

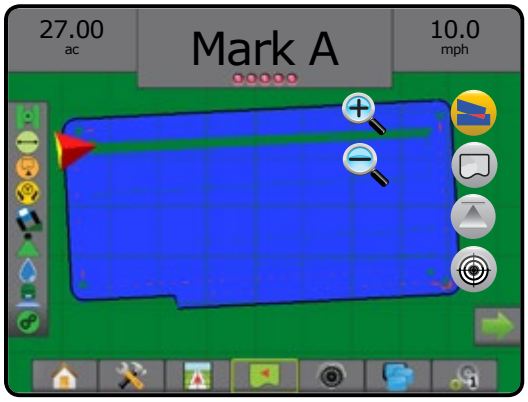
Coverage Map

Coverage Map showing areas covered by the implement. DCM does not require product to be applied. ISOBUS does require product to be applied.

On Screen Mapping

- Coverage Area – illustrates applied area and overlap:
  - ◄Blue – one application
  - ◄Red – two or more applications

Figure 8-12: Coverage Map



Prescription Map

Prescription Map is a pre-loaded map that provides information to the rate controller for use in applying product. Prescription Maps contain geo-referenced product rate information. The Aeros 9040 can import job data containing Prescription Maps for use with variable-rate application (VRA) using compatible rate controllers.

On Screen Mapping

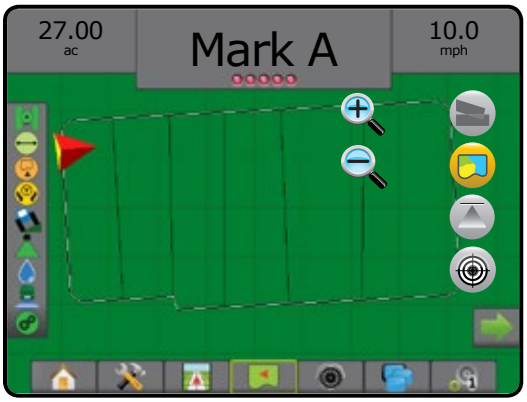
- Zone lines:
  - ◄Black when approaching the application zone.
  - ◄White when within the application zone.
  - ◄Other zones having the same rate will also be shown in white.
- Coverage Area – illustrates different prescription rate zones:
  - ◄User Selected – zone colors are selected when establishing the prescription map.

With Fieldware Link (v5.01 or later), users can import VRA jobs created in Fieldware Link, as well as export job data from the console,

edit the included maps to create Target Rate or Prescription Maps, and transfer back to the console for job use.

NOTE: Advanced Job Mode is required for variable rate applications. See Options (Job Mode) in the System Setup chapter.

Figure 8-13: Prescription Map



Application Map

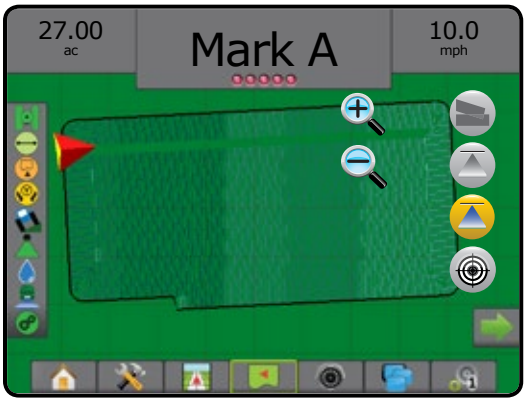
Application Map shows how much product has been applied and where, using color to indicate level in proportion to preset or automatically set maximum and minimum levels.

NOTE: Application Map and Target Rate Map cannot be selected simultaneously.

On Screen Mapping

- Coverage Area – illustrates applied area:
  - ◄User Selected – applied areas show colored bars relative to selected color range and map selection.

Figure 8-14: Application Map



Color Range Selection

Product options configure maximum/minimum rate limits and corresponding display colors for mapping.

1. Press CONFIGURATION side tab .
2. Press **Product**.
3. Select:
   - ► Color Range – mode used to set the rate for Maximum Rate Color and Minimum Rate Color.
     - ◄Automatic – maximum and minimum will be determined by actual applied rate values or target rate values
     - ◄Manual – maximum and minimum limits will be set to those set in Applied Rate Mapping Upper Limit and Applied Rate Mapping Lower Limit options
   - ► Maximum Rate Color – used to set the color for the maximum rate. When in Manual Color Range mode, this color will be used for all rates above the Applied Rate Mapping Upper Limit
   - ► Minimum Rate Color – used to set the color for the minimum rate. When in Manual Color Range mode, this color will be used for all rates below the Applied Rate Mapping Lower Limit

Figure 8-15: Product Options

Target Rate Map

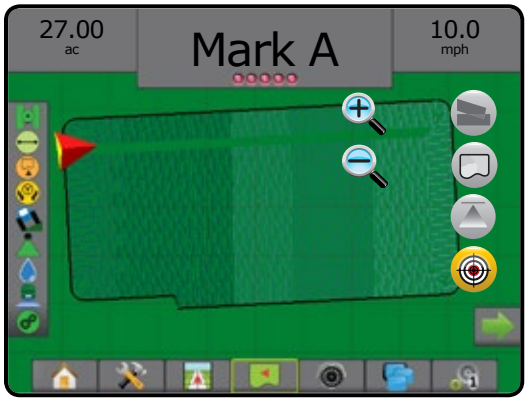
Target Rate Map shows the target application rate that the rate controller attempted to achieve at each location.

NOTE: Application Map and Target Rate Map cannot be selected simultaneously.

On Screen Mapping

- Coverage Area – illustrates applied area:
  - ◄User Selected – applied areas show colored bars relative to selected color range and map selection.

Figure 8-16: Target Rate Map



Target Rates

Preset Target Application Rates define target rates of product being applied per hectare/acre. These settings will set the same for all active jobs.

- DCM – up to three (3) target rates can be established
- ISOBUS – up to five (5) target rates can be established

DCM

Target rates are established in Setup-> Configuration-> Product. The current Target Rate is selected and boosted on the Rate Control screen.

ISOBUS

Target rates are established on the ISOBUS ECU using the ISOBUS UT. The current Target Rate is selected and boosted using the ISOBUS Operation screen on the UT. Boosting can also be controlled using the Vehicle View screen

Color Range Selection

Product options configure maximum/minimum rate limits and corresponding display colors for mapping.

1. Press CONFIGURATION side tab.
2. Press **Product**.
3. Select:
   - ► Color Range – mode used to set the rate for Maximum Rate Color and Minimum Rate Color.
     - ◄Automatic – maximum and minimum will be determined by actual applied rate values or target rate values
     - ◄Manual – maximum and minimum limits will be set to those set in Applied Rate Mapping Upper Limit and Applied Rate Mapping Lower Limit options
   - ► Maximum Rate Color – used to set the color for the maximum rate. When in Manual Color Range mode, this color will be used for all rates above the Applied Rate Mapping Upper Limit
   - ► Minimum Rate Color – used to set the color for the minimum rate. When in Manual Color Range mode, this color will be used for all rates below the Applied Rate Mapping Lower Limit

Figure 8-17: Product Options

APPENDIX A – SYSTEM CONFIGURATIONS

The following diagrams are reflective of typical Aeros configurations. Due to the variety of possible configurations, this should be used for reference purposes only.

Figure A-1: Aeros IC18 Sprayer

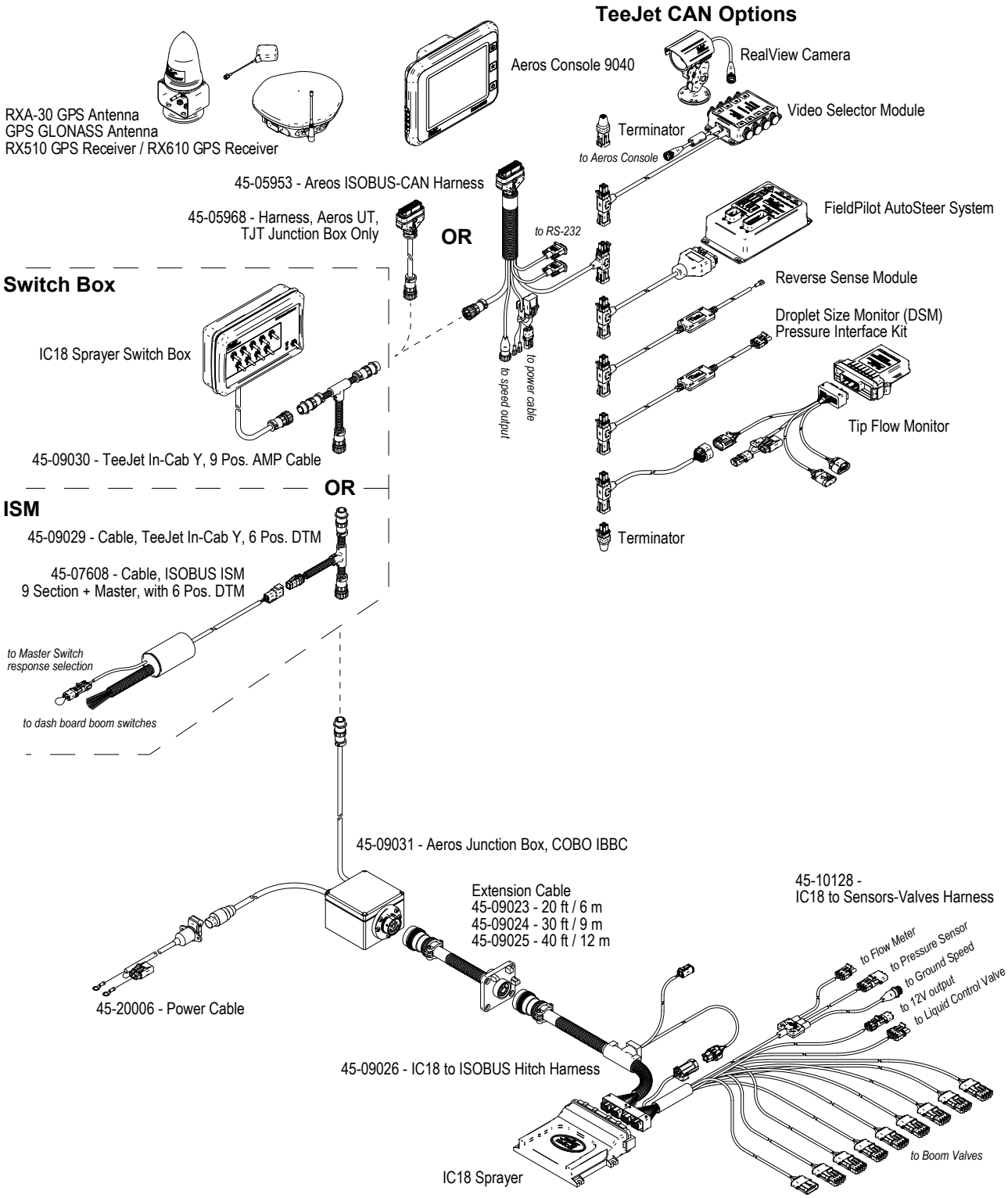

TeeJet CAN Options
RXA-30 GPS Antenna
GPS GLONASS Antenna
RX510 GPS Receiver / RX610 GPS Receiver
Aeros Console 9040
RealView Camera
Video Selector Module
Terminator
to Aeros Console
45-05953 - Areos ISOBUS-CAN Harness
45-05968 - Harness, Aeros UT, TJT Junction Box Only
OR
to RS-232
FieldPilot AutoSteer System
Switch Box
IC18 Sprayer Switch Box
Reverse Sense Module
Droplet Size Monitor (DSM) Pressure Interface Kit
to speed output
to power cable
Tip Flow Monitor
45-09030 - TeeJet In-Cab Y, 9 Pos. AMP Cable
OR
Terminator
ISM
45-09029 - Cable, TeeJet In-Cab Y, 6 Pos. DTM
45-07608 - Cable, ISOBUS ISM 9 Section + Master, with 6 Pos. DTM
to Master Switch response selection
to dash board boom switches
45-09031 - Aeros Junction Box, COBO IBBC
Extension Cable
45-09023 - 20 ft / 6 m
45-09024 - 30 ft / 9 m
45-09025 - 40 ft / 12 m
45-10128 - IC18 to Sensors-Valves Harness
to Flow Meter
to Pressure Sensor
to Ground Speed
to 12V output
to Liquid Control Valve
45-20006 - Power Cable
45-09026 - IC18 to ISOBUS Hitch Harness
to Boom Valves
IC18 Sprayer

Figure A-2: Aeros IC18 Spreader

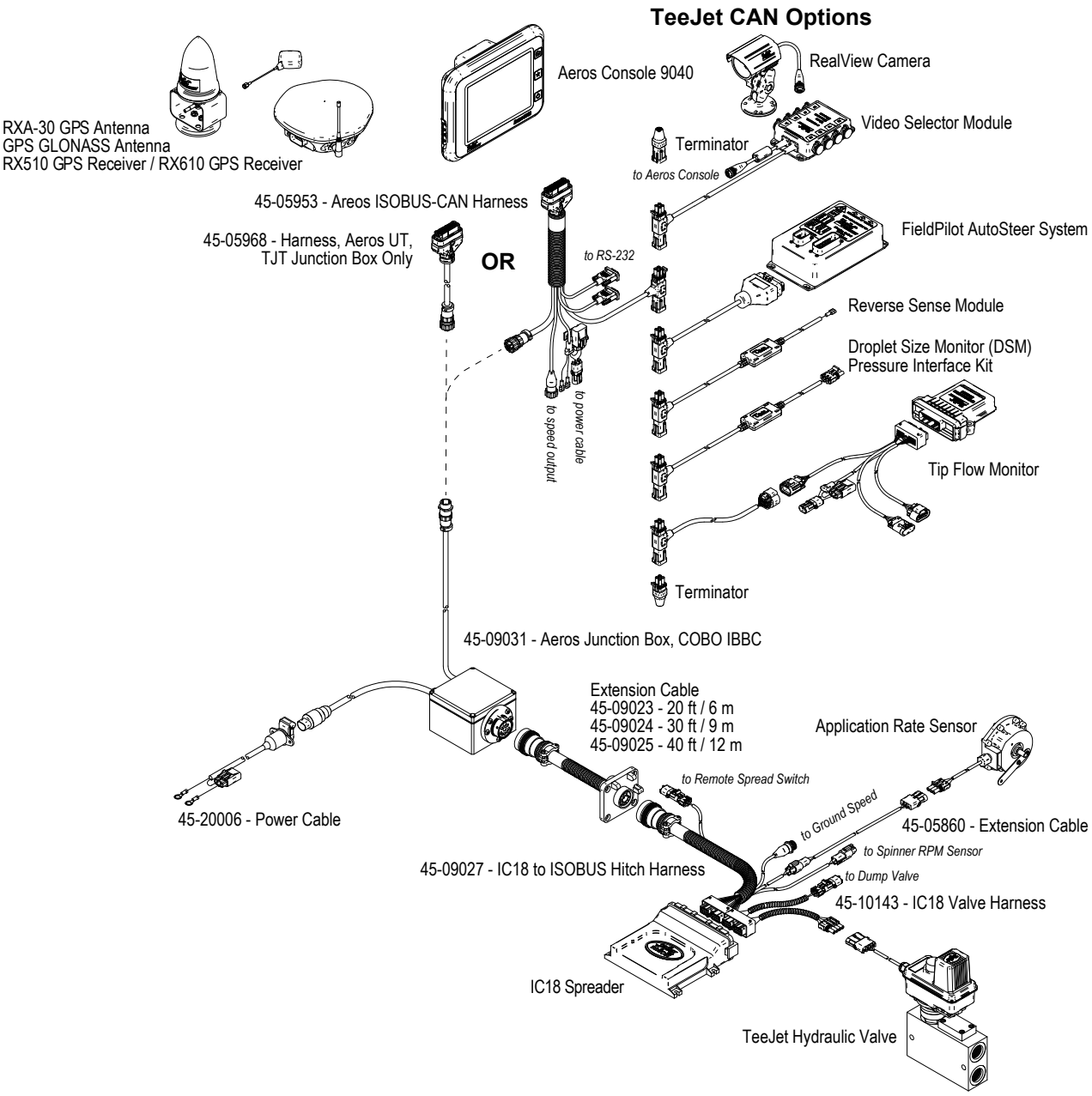
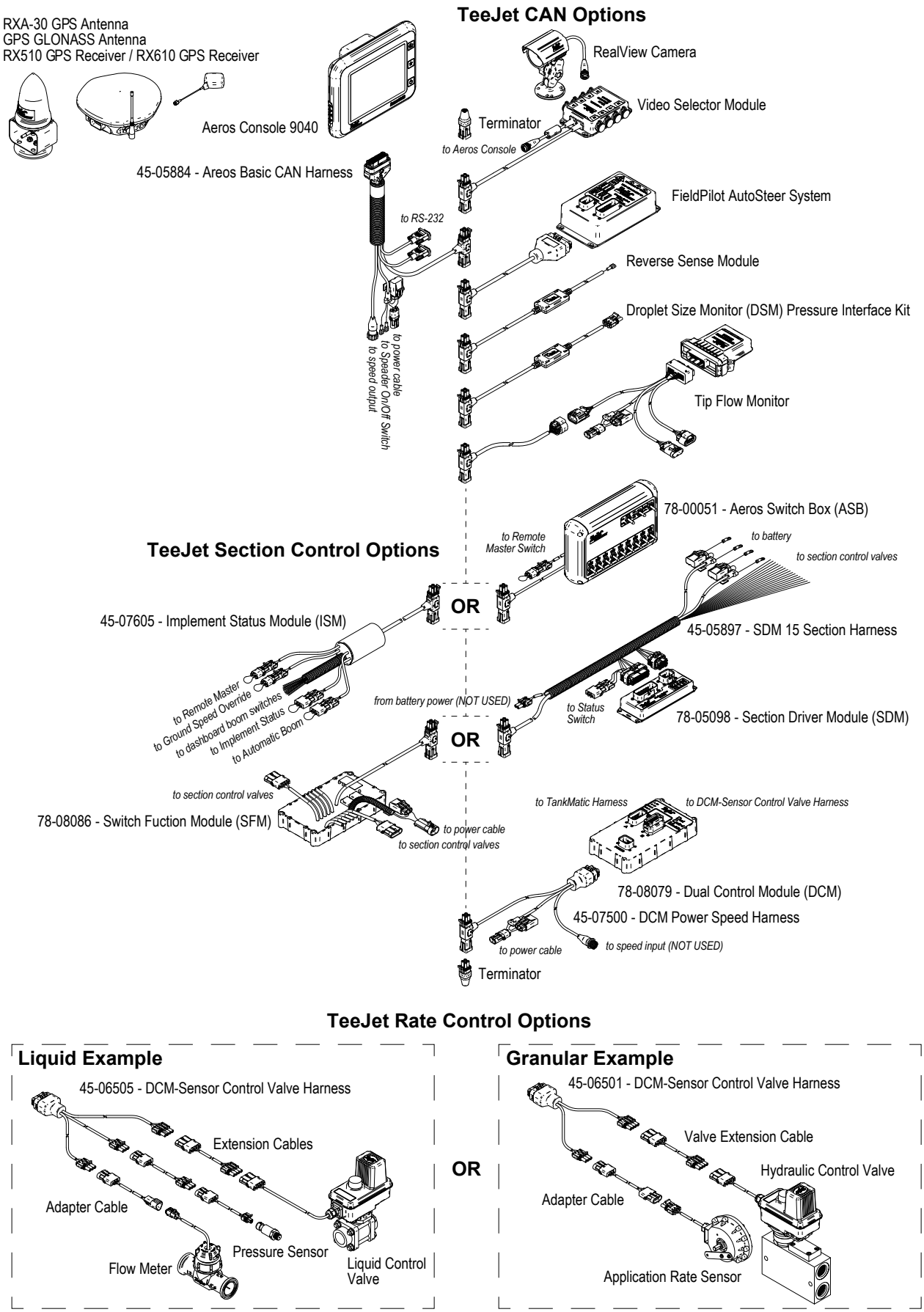


Figure A-3: Aeros DCM



APPENDIX B – AEROS CONSOLE MENU SETTINGS

This appendix lists the Aeros 9040 console's menu settings, and also provides the following:

- Settings available with an active job, either in "standard" mode, or in the diagnostic Control Setup mode.
- Settings that can be made in the Aeros 9040 console itself, or using the Fieldware Link software.
- Settings that are included when exported to a profile from the Aeros console, or from Fieldware Link.

Note: The Enable Control Setup option is available at the bottom of the Configuration -> Control Channels -> Product Control Channel -> Diagnostic screen.

Symbol Key

In the following tables, these symbols indicate whether settings are available during an active job:

✓ Available during an active job

× Not Available during an active job

Configuration Settings

Configuration Settings			Available with Active Job	Can be edited in		Saved to exported profile in	
				Aeros 9040	Fieldware Link	Aeros 9040	Fieldware Link
Implement	Machine Type		×	✓	✓	✓	✓
	GNSS Antenna Height		×	✓	✓	✓	✓
	Implement Type		×	✓	✓	✓	✓
	Symmetric Implement Layout		×	✓	✓	✓	✓
	Multiple Section Output Modules		×	✓	✓	✓	✓
	Number of Implement Sections		×	✓	✓	✓	✓
	Guidance Width		×	✓	✓	✓	✓
	Application/Working Width		×	✓	✓	✓	✓
	Droplet Size Monitor		✓	✓	✓	✓	✓
	Tip Selection		✓	✓	✓	✓	✓
	Tip Spacing		×	✓	✓	✓	✓
	Ground Speed Override		✓	✓	✓	✓	✓
	Applied Alert		✓	✓	✓	✓	✓
	Entry Time		✓	✓	✓	✓	✓
	Exit Time		✓	✓	✓	✓	✓
	Allow BoomPilot In Reverse		✓	✓	✓	✓	✓
	BoomPilot Start Mode		✓	✓	✓	✓	✓
	BoomPilot Icon		✓	✓	✓	✓	✓
	Reverse Signal Delay		✓	✓	✓	✓	✓
	Straight Mode	In-line Implement Offset Direction	×	✓	✓	✓	✓
		In-line Implement Offset Distance	×	✓	✓	✓	✓
		Lateral Implement Offset Direction	×	✓	✓	✓	✓
		Lateral Implement Offset Distance	×	✓	✓	✓	✓
		Overlap	✓	✓	✓	✓	✓
		Delay On/Off Times	✓	✓	✓	✓	✓

Continued....

Configuration Settings			Available with Active Job	Can be edited in: Aeros 9040	Can be edited in: Fieldware Link	Saved to exported profile in: Aeros 9040	Saved to exported profile in: Fieldware Link
Implement *(continued)*	Spreader Mode	**Setup Type: TeeJet**		✓	✓	✓	✓
		Antenna to Disks Distance	×	✓	✓	✓	✓
		Lateral Implement Offset Direction	×	✓	✓	✓	✓
		Lateral Implement Offset Distance	×	✓	✓	✓	✓
		Overlap	✓	✓	✓	✓	✓
		Delay On/Off Times	✓	✓	✓	✓	✓
		Spread Offset Distance	×	✓	✓	✓	✓
		Section Offsets	×	✓	✓	✓	✓
		Section Lengths	×	✓	✓	✓	✓
		Setup Type: OEM		✓	✓	✓	✓
		Antenna to Disks Distance	×	✓	✓	✓	✓
		Lateral Implement Offset Direction	×	✓	✓	✓	✓
		Lateral Implement Offset Distance	×	✓	✓	✓	✓
		Start/Stop Distances	×	✓	✓	✓	✓
		Section Start/Stop Offsets	×	✓	✓	✓	✓
	Staggered Mode	In-line Section 1 Offset Direction	×	✓	✓	✓	✓
		In-line Section 1 Offset Distance	×	✓	✓	✓	✓
		Lateral Implement Offset Direction	×	✓	✓	✓	✓
		Lateral Implement Offset Distance	×	✓	✓	✓	✓
		Overlap	✓	✓	✓	✓	✓
		Delay On/Off Times	✓	✓	✓	✓	✓
		Section Offsets	×	✓	✓	✓	✓
Guidance	Guidance Sensitivity		✓	✓	✓	✓	✓
AutoSteer	Assisted/Auto Steering Enabled/Disabled		✓	✓	Reference Only	✓	Retained from console
	Valve Setup	Valve Type	×	✓	Reference Only	✓	Retained from console
		Valve Frequency	×	✓		✓	
		Minimum Left/Right Duty Cycle	×	✓		✓	
		Maximum Left/Right Duty Cycle	×	✓		✓	
	Steering Settings	Coarse Steering Adjustment	✓	✓	Reference Only	✓	Retained from console
		Fine Steering Adjustment	✓	✓		✓	
		Deadband	✓	✓		✓	
		Lookahead	✓	✓		✓	
	Valve Test		×	✓	Reference Only	✓	Retained from console
	Valve Diagnostics		×	✓	Reference Only	✓	Retained from console
	Options	Steering Wheel Sensor	×	✓	Reference Only	✓	Retained from console
	Steering Angle Sensor	Enabled/Disabled	×	✓	Reference Only	✓	Retained from console
		Sensor Calibration	✓	✓		✓	
		On Line Calibration	✓	✓		✓	
Tilt Correction	Enabled/Disabled		×	✓	Reference Only	✓	Retained from console
	Field Level		×	✓		✓	
GNSS Receiver Config-uration	GNSS Type		×	✓	Reference Only	✓	Retained from console
	GNSS Port		×	✓		✓	
	GNSS Status Information		✓	✓		✓	
	Program		×	✓		✓	
	PRN		×	✓		✓	
Video	Reverse/Inverse		✓	✓	✓	✓	✓
Sensors	Input Output Module (IOM) Pressure Sensor	Maximum Pressure Rating	✓	✓	✓	✓	✓
		Low Pressure Alarm	✓	✓	✓	✓	✓
		High Pressure Alarm	✓	✓	✓	✓	✓

Continued....

Aeros 9040 Field Computer

Configuration Settings			Available with Active Job	Can be edited in: Aeros 9040	Can be edited in: Fieldware Link	Saved to exported profile in: Aeros 9040	Saved to exported profile in: Fieldware Link
Tip Flow Monitor	Tip Alarm Percentage		✓	✓	✓	✓	✓
	Tip Alarm Delay		✓				
	Number of Sections		×				
	Number of Tips per Section 1		×				
	Tip Balance Percentage		✓				
	Tip Flow Monitor Balance		×				
ISOBUS	Speed Broadcast		✓	✓	✓	✓	✓
	Time/Date Broadcast		✓				
	Universal Terminal (UT) Number		✓				
	Task Controller (TC) Number		✓				
	Number of UT Object Pools		✓				
	Number of ISOBUS Control Functions		✓				
Control Channels	Device Setup	Dual Control Module (DCM) 1	×	✓	✓	✓	✓
		Product Control Channel 1	×	✓	✓	✓	✓
		TankMatic	×	✓	✓	✓	✓
	Product Control Channel 1*	Application Type	×	✓	✓	✓	✓
		Regulation Valve Type	×	✓	✓	✓	✓
		Application Units	×	✓	✓	✓	✓
		Primary Sensor	×	✓	✓	✓	✓
		Monitor 1/2/3/4	×	✓	✓	✓	✓
		Diagnostic	✓	✓	✓	✓	✓
	TankMatic	Sensor Type	✓	✓	✓	✓	✓
		Primary Sensor	✓	✓	✓	✓	✓
		Monitor 1/2/3/4	✓	✓	✓	✓	✓
		Diagnostic	✓	✓	✓	✓	✓
Product	Product Name		×	✓	✓	✓	✓
	Actual Tank/Bin Amount		✓	✓	✓	✓	✓
	Target Application Rate Preset #1-3		✓	✓	✓	✓	✓
	Product Density		✓	✓	✓	✓	✓
	Application Rate Step		✓	✓	✓	✓	✓
	Maximum Rate Color		✓	✓	✓	✓	✓
	Minimum Rate Color		✓	✓	✓	✓	✓
	Color Range		✓	✓	✓	✓	✓
	Applied Rate Mapping Upper Limit		×	✓	✓	✓	✓
	Applied Rate Mapping Lower Limit		×	✓	✓	✓	✓

** Further details for Product Control Channel settings can be found in the Product Control Channel Settings table.*

Product Control Channel Settings

Product Control Channel Settings			Available with Active Job	Can be edited in		Saved to exported profile in	
				Aeros 9040	Fieldware Link	Aeros 9040	Fieldware Link
Application Type			×	✓	✓	✓	✓
Regulation Valve Type	Servo Valve	Gain	✓				
		Implement Status Switch Response	✓	✓	✓	✓	✓
		Master Switch Response	✓	✓	✓	✓	✓
		Valve Delay Time	✓	✓	✓	✓	✓
		Start Up Duty Cycle	✓	✓	✓	✓	✓
		Valve Location	✓	✓	✓	✓	✓
		Deadband	✓	✓	✓	✓	✓
	PWM Valve	Frequency	✓	✓	✓	✓	✓
		Start Up Duty Cycle	✓	✓	✓	✓	✓
		Maximum Duty Cycle	✓	✓	✓	✓	✓
		Dither	✓	✓	✓	✓	✓
		Gain	✓	✓	✓	✓	✓
		Ramp Time	✓	✓	✓	✓	✓
		Implement Status Switch Response	✓	✓	✓	✓	✓
		Master Switch Response	✓	✓	✓	✓	✓
		Valve Delay Time	✓	✓	✓	✓	✓
		Deadband	✓	✓	✓	✓	✓
Application Units			×	✓	✓	✓	✓
Primary Sensor	Flow Meter	Input	×	✓	✓	✓	✓
		Name	×	✓	✓	✓	✓
		Calibration Type	✓	✓	✓	✓	✓
		Calibration Number	×	✓	✓	✓	✓
	Pressure	Input	×	✓	✓	✓	✓
		Name	×	✓	✓	✓	✓
		Calibration Type	✓	✓	✓	✓	✓
		Alarm Units	✓	✓	✓	✓	✓
		Low Pressure Alarm	✓	✓	✓	✓	✓
		High Pressure Alarm	✓	✓	✓	✓	✓
		Alarm Delay	✓	✓	✓	✓	✓
		Sensor Output Type	×	✓	✓	✓	✓
Monitors	None						
	Flow Meter	Input	×	✓	✓	✓	✓
		Name	×	✓	✓	✓	✓
		Calibration Type	✓	✓	✓	✓	✓
		Calibration Number	×	✓	✓	✓	✓
		Alarm Units	✓	✓	✓	✓	✓
		Low Flow Alarm	✓	✓	✓	✓	✓
		High Flow Alarm	✓	✓	✓	✓	✓
		Alarm Delay	✓	✓	✓	✓	✓
	Shaft Speed	Input	×	✓	✓	✓	✓
		Name	×	✓	✓	✓	✓
		Calibration Number	×	✓	✓	✓	✓
		Alarm Units	✓	✓	✓	✓	✓
		Low Shaft Speed Alarm	✓	✓	✓	✓	✓
		High Shaft Speed Alarm	✓	✓	✓	✓	✓
		Alarm Delay	✓	✓	✓	✓	✓
	Product Detect	Input	×	✓	✓	✓	✓
		Name	×	✓	✓	✓	✓
		Status Alarm Type	✓	✓	✓	✓	✓
		Alarm Delay	✓	✓	✓	✓	✓

Continued....

Aeros 9040 Field Computer

Product Control Channel Settings			Available with Active Job	Can be edited in		Saved to exported profile in	
				Aeros 9040	Fieldware Link	Aeros 9040	Fieldware Link
Monitors *(continued)*	Pressure	Input	×	✓	✓	✓	✓
		Name	×	✓	✓	✓	✓
		Calibration Type	✓	✓	✓	✓	✓
		Alarm Units	✓	✓	✓	✓	✓
		Low Pressure Alarm	✓	✓	✓	✓	✓
		High Pressure Alarm	✓	✓	✓	✓	✓
		Alarm Delay	✓	✓	✓	✓	✓
		Sensor Output Type	×	✓	✓	✓	✓
Diagnostic	Enable Diagnostic		✓	✓	✓	✓	✓
	Enable Control Setup		✓	✓	✓	✓	✓

Data Management Settings

Data Management Settings			Available with Active Job
Job Data	Transfer	Export	×
		Import	×
		Delete	×
	Manage	Export	×
		Import	×
		Delete	×
Reports	Save PDF		×
	Save KML		×
	Save SHP		×
	Save all types		×
Options	Job Mode		×
Machine Settings	Transfer	Export	✓
		Import	✓
		Delete	✓
	Manage	New	✓
		Copy	✓
		Delete	✓
		Save	✓
		Load	×

Console Settings

Console Settings		Available with Active Job
About	System Information	✓
	Save	✓
Display	Color Scheme	×
	LCD Brightness	✓
	Screenshot	✓
	Screen Calibration	✓
Cultural	Units	✓
	Language	✓
	Time Zone	✓
Audio Volume	Audio Volume	✓
Demo GNSS	Start	✓

Console Settings		Available with Active Job
Feature Unlock	BoomPilot for Spreader	✓

Tools Settings

Tools Settings		Available with Active Job
Upload Software	Device	✓
	Software	✓
Extras	Calculator	✓
	Units Converter	✓

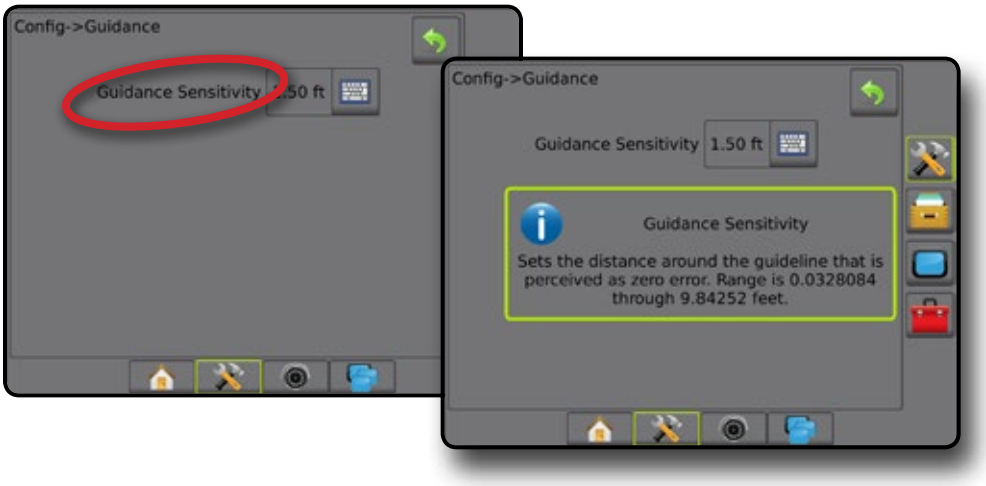
APPENDIX C – UNIT SPECIFICATIONS

Dimensions		10.375 x 8.25 x 3.5 in 26.4 x 21.0 x 8.89 cm
Weight		3.33 lbs. / 1.5 kg
Connectors	Power/CAN	35 pin AMPseal
	Camera	5 pin Conxall
Environmental	Storage	+14°F to +158°F / -10°C to +70°C
	Operating	+32°F to +122°F / 0°C to +50°C
	Humidity	90% non-condensing
Display		800 x 600 resolution 8.4 in / 21.3 cm
Input/Output		CAN, USB, RS232
Power Requirement		< 9 watts @ 12 VDC

APPENDIX D – SETTING RANGES

Press the option's name of any menu item to display a definition and range values of that item.

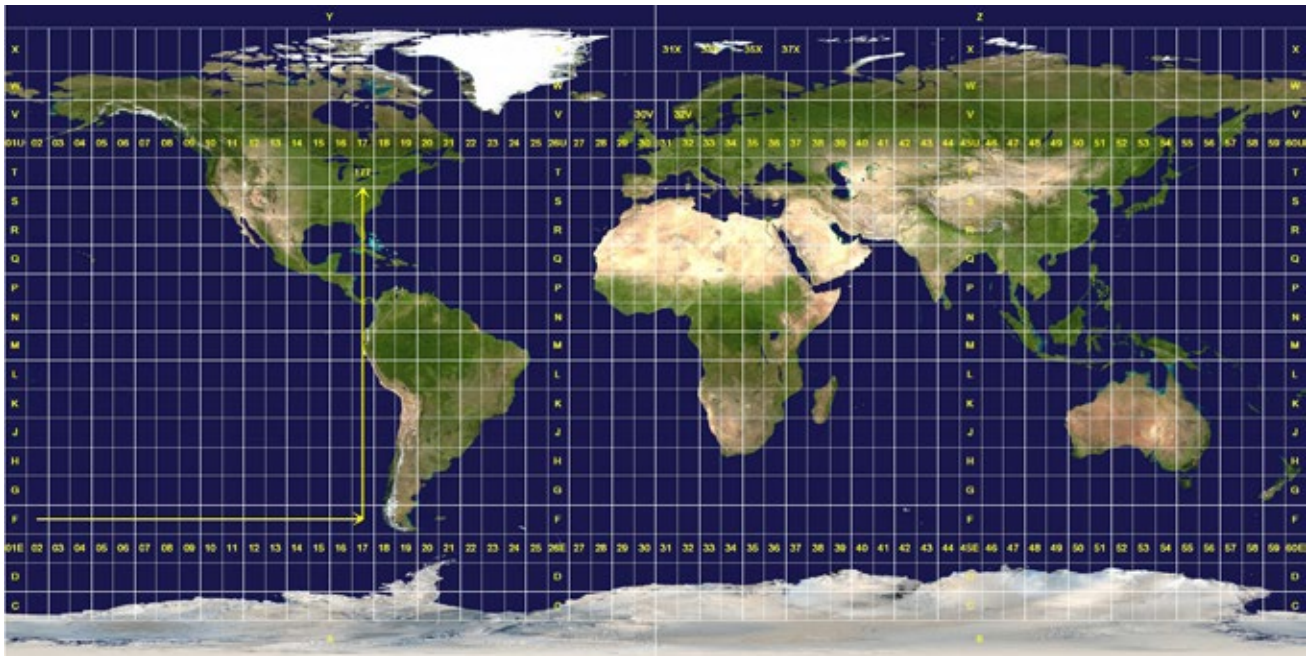
Figure A-4: Example of Information Text Box


Config->Guidance
Guidance Sensitivity
Config->Guidance
Guidance Sensitivity
1.50 ft
Guidance Sensitivity
Sets the distance around the guideline that is perceived as zero error. Range is 0.0328084 through 9.84252 feet.

APPENDIX E – UTM COORDINATES AND ZONES

The Aeros 9040 Field Computer uses the Universal Transverse Mercator (UTM) coordinate system to track job locations. The UTM coordinate system divides the surface of the Earth into sixty numbered north-south zones, which are further divided into latitude zones designated by letters, as shown below.

Figure A-5: UTM Coordinate System – Global



The Aeros console then tracks the UTM zones in which each product application job is performed. This zone information is then used to determine whether a job can be started/continued or to find the saved job that is closest to the vehicle's current position.

If a selected job is in a UTM zone other than the current or adjacent UTM zone, "Out of Range" will be displayed next to Distance, and **Start Job** or **Continue** will be disabled.

If a selected job has no recorded information, Distance will show "No Data".

AEROS® 9040
USER MANUAL

Product Upgrades Available

- FieldPilot® auto steering
- UniPilot® assisted steering
- BoomPilot® automated boom section control
- Tilt Gyro Module
- Video Selection Modules for up to 8 cameras
- External GPS receiver or antenna upgrades
- Fieldware® Link enhanced data organization application
- Pressure Sensor Interface Kit for Droplet Size Monitor
- ISOBUS Rate Control
- Reverse Sense
- Tip Flow Monitoring

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